

# Archomania

## Venality and Private Finances on the Eve of the French Revolution

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### **Abstract**

Venality of public office was a widespread form of rent-seeking in pre-revolutionary France. Successive legal adjustments converted venal offices into a regular form of property. Though legitimized, the practice became increasingly indefensible as a public vice for private benefit. This paper concentrates on the impact of a tax experiment on the institution twenty years prior to the Revolution. The tax in question (*centième*) was structured as a revelation mechanism of the value of the offices to their holders. We use a large cross-section of tax payments to infer officeholders expectations about the survival of venality.

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# 1 Introduction

Ce goût des offices est une espèce de manie qui nous agite, car le mot ambition est désormais trop doux, bien qu'inventé par les Romains pour signifier le désir immodéré des offices; il en faut forger un autre pour nous et l'appeler archomanie: la fureur d'offices.

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Loyseau (1610) *Cinq livres du droit des offices*

The sale of public offices is an instance of what Krueger (1974) defined as competitive rent-seeking, i.e. the creation of rents through government restrictions of economic activity. People can compete for these rents through legal or illegal means, such as bribery or corruption. Indeed, the sale of offices is sometimes identified as a marker of widespread corruption, as it diverts capital into the acquisition of the positions controlling networks of patronage and bribery (Wade 1985, Hillman and Katz 1987). However, this association between venality and corruption only became distinctively established with the profound institutional caesura of the French Revolution. Prior to 1789, venality of public office was an old and widespread practice, which was as legal and as open as today's trade in taxi plates in major cities or in stockbrokers' seats. In other words, it constituted a form of legitimized rent-seeking. Over time public sentiment changed against this institution from a relatively benevolent appreciation to a overwhelming criticism on moral and efficiency grounds (Doyle 2004, Nagle 2008). This sentiment coalesced with the liberal revolutions between 1789 and the early decades of the 19th century and led to the abolition of venality throughout Europe.

In the history of venality, France takes a prominent place as the country where the practice was at it most pervasive before the creation of modern bureaucracies in the Weberian sense (Ertman 1997). Although we know less about venality in other countries, such as the Iberian kingdoms (Descimon et al. 1997, Castillo and Fuente 2011) and even England (Harling 1996, Rubinstein 1963), the density of venal office-holding and the private capital invested in offices probably did not reach in all likelihood the French levels. This raises interesting questions about this exceptional French 'archomania,' to borrow the term coined by Charles Loyseau, the greatest authority on French venality in the 17th century.

This paper, however, does not try to address these questions and focuses instead on the last two decades of the institution in France. This was a period when venality attracted almost unanimous criticism and yet remained a popular form of investment (Doyle 1995, 1996). Contemporary and retrospective estimates count close to 70,000 officeholders on the eve of the Revolution (Parties Casuelles 1778). This represented perhaps 2% of the adult male population, while the notional capital invested in offices was equivalent to 30% of the total stock of financial assets in 1787, or a third of French GDP (Taylor 1967, Toutain 1997).

This seeming contradiction was taken up by the historiography of the causes of the French Revolution. Authors such as Cobban (1964) and Lefebvre (1947) characterized venality as a declining institution. For them, evidence of falling office prices on the eve of the Revolution constituted a source of grievance for the bourgeois investors, who were quickly disaffected to the Absolutist monarchy and figured prominently in its downfall after 1789. This interpretation did not survive the detailed reconstruction of time series of offices prices, many of which were actually on the rise up to 1788, casting doubt on the connection between disgruntled investors and the political events of the Revolution (Doyle 1984, 1996, Descimon 2006). On the contrary, only an exogenous shock such as a political Revolution could break with the complex nexus of private and public interests invested in venality (Doyle 1996).

Venality was a popular investment outlet for numerous reasons. Part of the appeal of holding office certainly revolved around prestige and social status. In a rigid society of orders, offices were one of the few avenues for recognition of upward mobility (Nagle 2008, Descimon 2006). At the top of the venal hierarchy, some 4,200 offices granted direct or indirect access to nobility (Doyle 1996).

However, financial interest was also certainly a consideration, as offices were prized for their income and traded as financial assets. A series of legal evolutions created an open market for offices, particularly the gradual separation between the right to exercise a public office and the price (*finance* in French) which the officeholder had to pay to acquire that right. This then opened up the possibility for buying and selling the *finances*, leasing and renting the exercise of their charges, mortgaging and inheriting offices. Venal offices were converted into a *immobilier fictif* and by 1610, Loyseau could already declare that “The law of offices proceeds entirely from their trade and venality.”<sup>1</sup> The income from offices was divided into a fixed remuneration, paid by the crown (*gage*) and a variable component (*fruits industriels*), which varied with the business the officer could attract. Solicitors and judges charged fees to bring cases to court or to judge them, for instance.<sup>2</sup> Although opinion is divided on how high the yields on offices were, compared to other forms of property (see Descimon 1997), the total return of these assets was probably higher. On the one hand, offices frequently granted personal tax exemptions. On the other, several classes of offices experienced appreciable capital gains up to 1788 (Doyle 1984, 1996).

On the other side of the market, the crown also developed an almost addiction to venality mostly as a source of funds. Institutional obstacles prevented the monarchy from raising taxes to the level that would support public credit, in a similar way to what Britain achieved with its excise

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<sup>1</sup>(Loyseau 1610, I,1 §114, p.8). Taxicabs are again a close contemporary parallel, as investors can buy plates and lease them to actual drivers.

<sup>2</sup>In a parallel debate to today’s literature on controlling corruption in public office through incentives, some contemporaries argued for increases in *gages* to prevent bribe-taking (see Descimon 1997).

duties and government consols (Brewer 1988, Rosenthal 1998, Velde and Weir 1992). Venality offered a relatively cheap alternative as kings repeatedly used the better credit of the corporations of officeholders to finance themselves indirectly at lower interest rates than they could command directly in the market (Root 1994, Bossenga 2011). Contemporaries were naturally aware of the similarity between offices and government debt and to complete the mutation, the original public wages (*gages*) became interest payments on the nominal value of the *finances* (Descimon 2006).

This then created a strategic complementarity between the crown and officeholders since the better protected the property in offices the lower the rates at which existing or aspiring officers could borrow in the market to pay the king for new offices. Moreover, kings derived a regular income stream from offices through a series of taxes on offices administered by a special government department, the *Bureau des parties casuelles*. These comprised direct taxes on the notional value of the offices, coupled with indirect taxation on the transactions of offices between private individuals (Mousnier 1971). The most significant was the *Paulette* or *annuel*, an annual tax instituted in 1604 and worth 1/60th of the official value of the offices. Even though a 1/60th annual capital levy may appear heavy, over time inflation –especially office price inflation– reduced the effective tax rate. Official values (*finances*) were fixed at the time of creation of the offices and only seldom updated.<sup>3</sup> Nonetheless, a *Mémoire* prepared in 1778 by the *Parties casuelles* for Necker, a great enthusiast of this form of raising finance, estimated that the net interest paid on offices was no higher than 0.75% and concluded that “there is no other form of borrowing through perpetual *rentes* or even life annuities that is so little onerous to the state” (Parties Casuelles 1778, p. 450).

If officeholders and government finance won from venality, society at large had to pay for the rents created by the system. The critics of the institution castigated the excessive creation of artificial offices for no public good or for the exclusive purpose of selling monopoly rights to individuals.<sup>4</sup> The attraction of officeholding deviated skills and capital from productive use, while ability to pay was hardly considered as the best way of selecting public servants.<sup>5</sup> The indirect cost for society of officeholders’ tax exemptions was frequently mentioned, as well as the burden of the *gages*, although the latter was probably less justified than the former. Finally, venality was suspect of raising transaction costs as officeholders had an obvious incentive in extending their scope of action and, consequently, their income. Law officers, in particular, were accused of promoting excessive litigation (*chicane* in French) at great cost to the parties in civil cases (Doyle 1996, Descimon

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<sup>3</sup>After 1604, the *finances* were only revalued in 1638 (+ 1/3) and in 1665. And on this last occasion they were revised *down* by 36% for reasons we detail below.

<sup>4</sup>An example of the first type of criticism were the offices of gunners which had been created even in towns without any canon! (Descimon 2006) Guild memberships, which became offices in the late 18th century, are a clear example of the second type.

<sup>5</sup>Ironically, Montesquieu (1758) was a rare defensor of venality as a second-best solution in a monarchical regime.

2006).

## 2 The 1771 Tax Experiment

Although a relatively protected class of government assets, venal offices were still subject to the sovereign power of the king to tax. The motivation for this paper is a new tax levied on the *finance* of the offices in February 1771. A royal Edict of this month determined that officeholders would start paying 1% of their *finances* annually in replacement of 1/60th from the *Paulette*. But the most important aim of the Edict was to force a revaluation of the *finances* since “there no longer [was] any relation between their current value and their old valuations.” In other words, the crown was trying to update the tax base to account for more than a century of price inflation. Jean-Marie Terray, the Controller-General of Finances between 1770 and 1774, who authored the Edict, chose an especially interesting way of revaluing the offices. Rather than imposing a flat percentage rise, he left to “the office owners the liberty to fix themselves the values” of their charges. Officers were given six months to comply and since both the *annuel* and the new *centième* were due at the end of the year, the first payments would be recorded from early 1773. Faced with the obvious incentive of officeholders to undervalue their positions, the Edict contained two countervailing dispositions that converted it into an early application of a direct revelation mechanism.

First, Terray reminded the officeholders that the king always retained the eminent property of the offices, which he could revoke at any time by reimbursing the holders at the legal *finance*. In other words, offices were callable assets, and Terray reinforced this message by stating that it was the king’s firm intention to abolish “a variety of offices that owe their creation to nothing but the needs of the state and that are onerous to it.” Even though past ministers had paid lip service to the need to control or abolish the excesses of the venal system, this message was probably more credible in 1771 than anytime before or after. The late years of the reign of Louis XV witnessed a decisive attempt at reforming the institutions of the *Ancien Régime* lead by a colleague of Terray’s, the Chancellor Maupeou.

Maupeou’s reforms were the culmination of the long-drawn efforts of the crown to release itself from the constraints to its authority (namely tax authority) from the other political counter-powers in the country (Ford 1953, Rosenthal 1998, Hoffman and Norberg 2002). Maupeou took the radical step of bypassing the opposition of the sovereign courts (*parlements*) by abolishing them and extinguishing their offices through reimbursement (Flammermon 1883, Chartier 2009).<sup>6</sup> This generated a general atmosphere of fear that focused the officers’ minds on the threat of a call contained in the 1771 Edict. As a magistrate of Semur-en-Auxois put it:

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<sup>6</sup>The total cost of Maupeou’s extinctions was estimated at 120 million *livres* (Doyle 1996).

“The Edict . . . offered holders nothing but a quite odious alternative; either open themselves one day to losing part of the price of their offices, or to really losing it every day, since this Edict came down to a temptation that few among them resisted; arbitrarily either to inflate or bring down their valuations according to whether they were driven by fear or chimerical hopes” (cit. in Doyle 1996, p. 125)

The second disposition was to prevent later sales at prices higher than the new *finance* fixed by the officer himself, i.e. one hundred times the annual *centième*. If believed, this additional disposition effectively forced the officers to lock in their expectation of future capital gains.<sup>7</sup> Both additions created incentives for truthful revelation or even overvaluation.

In this context, Terray’s Edict, which took the officers completely by surprise, was a second shock to add to Maupeou’s reform. Officers tried dragging their feet by demanding exemptions from the application of the Edict, or at least by postponing sending their declarations to the *Parties casuelles* until they had heard what their colleagues had done elsewhere in the country (Doyle 1996).<sup>8</sup> Fate would have it that Maupeou and Terray would hold on to power for a short period only, being dismissed in August 1774 by the new monarch Louis XVI, who reverted Maupeou’s reforms (reestablishing the abolished *parlements*) but kept the *centième*. In the final 15 years of absolute monarchy, the market for officers recovered from the shock and, in particular, officers found extra-legal ways of selling their charges above the official maximum fixed by the *finances* (Doyle 1996, Descimon 2006).<sup>9</sup>

Despite the countervailing incentives of Terray’s Edict, the majority of the historiography on the 1771 revaluation considers that chimerical hopes trumped fear and that officeholders generally undervalued their offices (by a third or even half) to pay lower taxes (see Doyle 1996). This judgement is frequently based on the statements of officeholders twenty years after the facts. One of the first orders of business of the *Assemblée nationale* was to abolish venality, but the actual procedure of extinguishing and reimbursing officeholders took over four years (Lafon 2001). Ironically, the new Regime chose to reimburse most offices at the *finances* freely fixed by the officeholders themselves in

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<sup>7</sup>Most good ideas are always taken. In fact, this *fixation* had already been tried in 1665 by another duumvirate Chancellor-Controller (Dodun-Colbert), who had imposed a 36% decrease in the official value of law offices. Colbert’s motives were certainly different than Terray’s as he sought to break the power of the sovereign and other high courts by imposing a partial confiscation of their office values. This *fixation* was kept in the statute book until 1709 and was later reinstated in 1724 as part of the general deflationary policy of the Regency after the collapse of Law’s “system” (Descimon 2006).

<sup>8</sup>The *centième* did not apply, however, to all venal offices. It excluded the main offices at the sovereign courts, the chancellery, seigneurial offices and the so-called ‘customary’ venality. The latter was different from ‘legal’ venality because it involved offices that were not officially venal - e.g. officers’ commissions in regiments. Because of that the king did not derive the same income from them (sales and taxes) that he did from ‘legal’ venality, although the practice was tolerated for the most part.

<sup>9</sup>This was accomplished by side-payments not recorded in the official sale contracts (*pots-de-vin, épingles, chaînes*). Even if tolerated, these side-payments were not legal and added an element of risk to officeholding, which probably depressed their prices somewhat (Descimon 2006).

1771. This led to a chorus of complaints as officers tried to persuade the new powers that the 1771 valuations were below the market value of their charges, particularly because they had understated them to escape paying taxes to the previous tyrannical regime.

This may well have been the case, but there is countervailing evidence. For one, the new tax doubled the revenue from the previous taxation on offices (Parties Casuelles 1778). Second, part of the undervaluation in 1791 was certainly due to the office price inflation since 1771 and not to the understatement of the *centième*, such that the real losers from the liquidation of venality were the officers who had bought their charges in the 1780s (Doyle 1996, Lafon 2001, Descimon 2006). Finally, if there were incentives to lie in 1771 there were equal incentives in 1791, this time to overstate the value of the offices and pocket a larger payment (Descimon 2006). With evidence going both ways, it is impossible to know whether the 1771 valuations were accurate declarations of market values or not. This paper uses the particular incentives contained in the 1771 Edict to answer this question quantitatively. In the next section we set up the problem faced by officeholders and the crown in 1771. The model yields an empirical counterpart which we fit to the data in section 4.

### 3 Model

In this section we spell out the strategic problem facing officeholders and the king for the fixation of the tax and official value of each office. We consider two alternative modelling strategies. In a first model, which we take as the base framework for our analysis, we assume that the officeholders took the likelihood of the exercise of the call to be endogenous to their actions (namely the declaration of the *centième*). We take this as our base framework for analysis. In a simpler setting we consider this probability as exogenous, but show that the two models are almost observationally equivalent. Both versions are derived under risk-neutrality of both officers and the king. In a final section we show that introducing risk-neutrality for the officers does not change the qualitative predictions of the model.

#### 3.1 Base Model with Risk-neutral Officers

The officers and the king engaged in a noncooperative game for the revelation of the truthful value of the office. In this imperfect information game, the king tried to manipulate the officers' incentives through two of the main dispositions of the Edict of February 1771. On the one hand, the officers were reminded of the king's option to call the offices, which he declared to be his intention "once the circumstances allow it." In the context of Maupeou's contemporary reform of the French

judicial system that involved the abolition through reimbursement of thousands of venal offices, this call was probably more salient in the officers' minds than previously. Nevertheless, we will not be prejudging the credibility of this call – rather we will try and measure it.

On the other hand, the king introduced a *fixation* of the maximum sale price of the offices in the future at the values declared for the *centième*. As we already mentioned, after the demise of the Maipeou-Terray diuumvirate, the market for offices went back to business as usual, as officeholders found a number of expedients to sell their charges above the official *finance*. Consequently, we will also make no assumption about the credibility of this imposition at the time of the fixation of the new *finance* in 1772-73, namely because it does not bear on the model to estimate, as we explain below.

We start by characterising the officer's problem. Many offices paid a fixed interest or *gage* that we note by  $g_j$  ( $j$  refers to the office).<sup>10</sup> Gages were obviously common knowledge as the royal administration had to pay them. We can also subsume into  $g_j$  any pecuniary advantages of officeholding such as tax exemptions associated with ennobling offices and which were also known to the central administration. But on top of this fixed component, offices yielded a variable income dependent on the officer's ability, reputation, customers' portfolio and other unobservable individual characteristics. Contemporaries called the variable component *fruits industriels* or *épices*, in the case of the judicial offices, and we note them as a multiplicative factor  $e_{ij}$ , such that the total yield of an office  $j$  for individual  $i$  is given by  $g_j(1 + e_{ij})$ . This component could also include utility gains from officeholding, such as prestige and social status, which also varied between individuals.

Individual unobserved heterogeneity would pose an insurmountable identification problem in a cross-section of offices. In fact, the 1771 Edict implicitly solved this problem. Article VI established as the default procedure for establishing the new *finances* that the declarations for “offices of the same nature and quality in the said courts, seats, corps or communities will be made and decided by the majority of the holders of the said offices of same creation or *finance*.”<sup>11</sup> We are unable to verify whether this democratic procedure was effectively followed, or whether the declarations of the *centième* were swayed by more powerful officeholders within each company. Nevertheless, there is documental evidence that the local companies of officers deliberated before declaring a common value to the *Parties casuelles*. For instance, it took two meetings of the company of *procureurs* (solicitors) in the middle court of Toulouse (*présidial*) for its members to reach an agreement, by majority, to set the value of their offices at 2000 *livres*.<sup>12</sup> In any case, the variable component  $e_j$ ,

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<sup>10</sup>The most prominent offices without explicit *gages* were the notaries and the *procureurs postulants*.

<sup>11</sup>“Les déclarations . . . seront à l'égard des offices de même nature & qualité dans lesdits Cours, Sièges, corps, ou communautés, faites & arrêtés à la pluralité des voix entre les pourvus desdits offices de même création et finance.”

<sup>12</sup>The sessions were held on the 30 November and 6 December 1771 and the defeated minority wanted to fix a value of 1500 *livres* (Archives de la Haute-Garonne 5 B 1274).



relevant for the determination of the *centième*, does not depend on individual unobservables.

If  $\pi$  stands for the probability that the king will exercise the call option at any point in the future (i.e. a perpetual option) and  $r$  is the relevant discount rate, the officers of a given company solved the following problem for the optimal *centième*  $c_j$ :

$$Max_{c_j} V_j = [g_j (1 + e_j) + 100c_j] \frac{\pi}{\pi + r} + [g_j (1 + e_j) - c_j] \frac{1 - \pi}{\pi + r} \quad (1)$$

This expression states that in any given year, the value of the payout of the office to the officeholders can be the sum of that year's income  $g_j (1 + e_j)$  minus the tax  $c_j$  with probability  $1 - \pi$ , or the same income plus the reimbursement at the official *finance* (one hundred times the *centième*) with probability  $\pi$ .

The king's problem was to maximize the expected discounted revenue from each office by choosing the optimal probability  $\pi$  of exercising the call. It is easy to see why a pure strategy is not optimal. If the king set  $\pi = 0$ , the optimal reaction of the officeholder would be to pay as small a tax as possible ( $c_j = 0$ ). On the other hand, since expression (1) is linear in  $\pi$ , fixing  $\pi = 1$  would lead the officeholders to fix as large a *centième* as possible, as the short-run cost of higher tax payments would be more than compensated by the higher payoff of the expected reimbursement. Consequently, a mixed strategy dominates and the king chooses an optimal  $\pi$  to solve the following problem:<sup>13</sup>

$$Max_{\pi} V_j^k = \frac{c_j}{r} + \frac{\pi}{\pi + r} \left\{ [g_j (1 + \hat{e}_j) + 100c_j] \frac{\pi}{\pi + r} + [g_j (1 + \hat{e}_j) - c_j] \frac{1 - \pi}{\pi + r} - 100c_j \right\} \quad (2)$$

This expression assumes that the king has no intention of effectively abolishing venality, but only uses the threat of the call to elicit the highest tax payment from the current officeholders. It is reasonable to think that in the context of the difficult financial position at the end of Louis XV's reign this would be a reasonable assumption on the part of officeholders (White 1989, Sargent and Velde 1995).<sup>14</sup> However, the threat could still be exercised by the king in case officers fixed too low a tax. In that case, the king had the option of reimbursing the office and re-selling it in the open market. The decision to exercise this call depended on the king's appreciation of the value of the office.

As mentioned, the king could observe  $g_j$  but not  $e_j$  and, in fact, it was the inability of the royal administration to observe the true value of the offices to their holders that was on the basis of

<sup>13</sup>Officers could not play mixed strategies because of the need to declare their valuations.

<sup>14</sup>Moreover, while Maupeou's reforms abolished swathes of law offices, Terray himself was one of the most prolific creators of venal offices of all times. In particular, Terray innovated by extending venality to the trade guilds (Bien 1997, Doyle 1996).

Terray's Edict. Nevertheless, the king would have a prior about the variable component of each office's income  $\hat{e}_j = E(e_j)$  such that he would exercise the call if  $V_j(\hat{e}_j) > 100c_j$ . The term within braces in the right-hand side of (2) is simply the difference  $V_j(\hat{e}_j) - 100c_j$ , whereas the first term represents the present value of the *centième* payments, which the king would receive if he exercised the call or not. It would be more realistic to assume that there was a transaction cost to the king from arbitraging between the exercise of the call and reselling the office in the market. In particular, an impecunious monarch would have at least to borrow the funds to pay the reimbursement at some market interest rate  $\rho$ . However this would only slightly change expression (2) to  $V_j^k = c_j/r + \pi/(\pi + r)[V_j(\hat{e}_j) - 100c_j(1 + \rho)]$  and since it does not affect the qualitative results of the model and we ignore it for ease of notation.

The FOCs of these problems are relatively simple. In the case of the officeholders, the linearity of the maximand  $V_j$  in  $c_j$  implies a corner solution:<sup>15</sup>

$$c_j^* = \begin{cases} 0 & \text{if } \pi < \frac{1}{101} \\ +\infty & \text{if } \pi \geq \frac{1}{101} \end{cases} \quad (3)$$

The remarkable feature in this reaction function is how small the probability  $\pi$  is (less than 1%) that makes the officeholders indifferent between not paying *centième* or trying to fix as large a sum as possible in anticipation of the call.<sup>16</sup> Now taking  $c_j$  as given, the FOC to the king's problem is:

$$\pi^* = \frac{(1 + 100r)c_j - g_j(1 + \hat{e}_j)}{(1 + 102r)c_j - g_j(1 + \hat{e}_j)} r \quad (4)$$

This FOC is decreasing in the king's estimation of the value of the office in the market  $\hat{e}_j$  but increasing in  $c$ . Although apparently counterintuitive, both partials make sense from a strategic viewpoint. Since the officers' optimal reaction is to increase  $c_j$  with  $\pi$  for  $\pi \geq \frac{1}{101}$ , the king would want to explore that by placing the officeholders at greater uncertainty about their offices. Likewise, for a given  $c_j$ , both  $\hat{e}_j$  and  $\pi$  increase  $V_j(\hat{e}_j)$  so they are substitutes for maximizing the king's value.

Figure 1 represents (3) and (4) in the space of available actions of the two players.

### Figure 1 here

Despite the discontinuity in the officer's reaction function, there is always an equilibrium E such

<sup>15</sup>Officeholders convinced of  $\pi > \frac{1}{101}$  would obviously not fix an infinite  $c_j$ , but a a very high value since  $V_j$  is increasing in  $c_j$  in that range of values of  $\pi$ .

<sup>16</sup>This is largely a feature of risk neutrality, as we will see, and also of the perpetual option. If we model the call as a one-year ahead option, the threshold probability depends on  $r$  and is higher. For instance, with  $r = 0.05$ , officers would be indifferent at  $\pi = 0.17$  or at  $\pi = 1/2$  if  $r = 0.01$ , though this discount rate is too low to admit.

that:

$$\pi = \frac{1}{101} \text{ and } c^* = \frac{101r - 1}{10100r^2 - r - 1} g(1 + \hat{e}) \quad (5)$$

To gain an intuition for the implications of this equilibrium, Figure 2 represents the value to the officers of a given office with total income of 60 *livres* p.a. and the optimal *finances* (hundred times the *centième*) declared by them for each possible prior  $g_j(1 + \hat{e}_j)$  by the king.<sup>17</sup> There are two areas in this Figure. For values of the king's prior below the true income, officeholders understandably undervalued their charges when declaring the *centième*. However, for values above 60 *livres* it was optimal for officers to *overvalue* their charges.

### Figure 2 here

This latter result goes against the majority of historical literature that simply assumes that there was widespread undervaluation of offices following the application of the 1771 Edict. The reason for this counterintuitive behaviour is obviously strategic. The higher the king's prior the more likely he would exercise the call in expectation of an arbitrage gain in the office market. Therefore, the riskier became for the officeholders to shade the 'true' or market value of their offices. For priors above the true income from the office, officers would want to dissuade the king from exercising the call by eventually declaring higher *finances* above their private values. For priors in the neighbourhood of this true value (60 *livres* in this example), the declarations of the *centième* are approximately equivalent to the market values of the offices.<sup>18</sup> The whole issue around undervaluation of offices at the time of the fixation of the *centième* therefore depends on the officeholders' expectations about the king's priors or, equivalently, on their estimation of the likelihood of a call.

In a few cases, officeholders explicitly revealed that the basis for their evaluations was the last price paid for the office. For instance, Jean Bertrand, the mayor of Richemont (Moselle) evaluated his office in December 1772 at 1200 *livres* and produced the receipt from his acquisition of the said office in the previous month of April for the same value.<sup>19</sup> However, this is just anecdotal evidence and cannot be taken as representative of the officeholders' expectations at the time when they had to declare the *finance* of their charges. Rather than prejudging these expectations, we will attempt in the next section to identify them by estimating an empirical counterpart to the equilibrium expression (5). By taking logs of this expression, we get:

$$\ln(c_j^*) = \ln\left(\frac{101r - 1}{10100r^2 - r - 1}\right) + \ln[g_j(1 + \hat{e}_j)]$$

<sup>17</sup>We also assume  $r = 0.05$ , as that was considered a standard value for the interest rate on loanable funds at the time.

<sup>18</sup>In fact, at  $g_j(1 + \hat{e}_j) = 60$  there is already a slight overvaluation of 0.25%.

<sup>19</sup>AN P4570, fl 28.

And adding and subtracting  $\ln [g_j(1 + e_j)]$ :

$$\ln(c_j^*) = \ln[g_j(1 + e_j)] + \ln\left(\frac{101r - 1}{10100r^2 - r - 1}\right) + \ln[g_j(1 + \hat{e}_j)] - \ln[g_j(1 + e_j)] \quad (6)$$

This expression decomposes the optimal *centième* declarations into three additive components: the true income of the offices, an adjustment factor dependent on the officeholders' discount rate and the difference between the true variable income and the officeholders' best guess of the king's prior. In the absence of insider information on the king's real intentions about their individual offices, rational officeholders would assume that the king would exercise the call whenever  $\hat{e}_j > e_j$ . Consequently, the larger the value of the last term in (6) the higher the officers' expectation of a call.

Expression (6) has one component that is observable –or that can, at least, be proxied by observables– i.e. the office income; and two latent variables –the adjustment factor dependent on  $r$  and the officeholders' expectation of the difference between the king's prior and the effective office income. Even so, we can benchmark the second latent term for some canonical discount rates and run a cross-section regression of the following form:

$$\ln(c_{jk}) = \alpha + \beta \ln(\mathbf{X}_{jk}) + \delta_j + \epsilon_k + u_{jk} \quad (7)$$

where the observations are indexed by office  $j$  and location  $k$  as we are taking the same office in two different locations as effectively different offices. The expected income from each office obviously depended on the characteristics of the location where it was exercised and the 1771 Edict explicitly recognised this by requiring that the new evaluations had to be done by each local company of officeholders. Moreover, the geographical variation in call expectations was acknowledged at the time:

“Officers decided everything by diverse conjectures. Those who presumed that preparations were being made to pay off their offices valued them at a level fairly close to the real price, as at Marseille . . . those who judged on the contrary with truth that the required valuation was nothing but a fiscal and tyrannical invention settled on a low price.”<sup>20</sup>

Vector  $\mathbf{X}_{jk}$  includes observable characteristics of each pair office-location, namely, local population, distance from Paris and the provincial capital, the number of similar offices in each location (to capture dilution of office values) and, when available, the *gages*  $g_{jk}$  paid to officeholders. In case

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<sup>20</sup>Petition of attorneys of Aix-en-Provence 14.01.1791 cit. in Doyle (1996, p. 124).

these do not span the whole variation in office values, we also include office and location fixed effects. Finally, under the identification assumption that the officeholders' discount rate and their expectations about the king's prior are uncorrelated with their private values, equation (7) is identified and we can interpret the residuals  $u_{jk}$  as the measure of the officers' expectations about the call when fixing the new *finances* of their charges. One can imagine situations where this assumption would break down, for instance, if the holders of more valuable offices had different discount rates (perhaps because of varying absolute risk aversion). Alternatively, there could be a correlation between office values and pessimism of officeholders' expectations. In any case, we find these unlikely and will discuss some instrumental variable options in the concluding section.

Finally, in order to interpret the estimation residuals we need first to deduct the adjustment term in (6) dependent on  $r$ . For reasonable values of  $r$  this term is very small and falling with the discount rate. E.g., with  $r = 5\%$ , this term is approximately 0.167 (-1.78 logs) or 0.09 (-2.3 logs) for  $r = 10\%$ .

### 3.2 Simpler model

In this alternative framework we depart from the previous model on two grounds. First, we take the probability  $\pi$  as exogenous to the officeholders' actions. This is equivalent to officers having fixed expectations about the king's actions or to assuming that the king does not adjust his actions after the officers declare the *centième*. Although such assumption shuts down half of the strategic interaction of the base model, it is actually very close to the previous setting where officers ignored the king's prior  $\hat{e}_j$ . In other words, in this setting  $\pi$  can be interpreted as the  $Prob\{\hat{e}_j > e_j\}$ .

Second, we assume that officeholders believe the price ceiling imposed by the Edict on future sales. I.e. if  $p_j$  stands for the market price of a given office,  $p_j \leq 100c_j$ . This imposes an extra constraint on the officers' decision-making, as it forces them to lock-in any expected capital appreciation of their charges. Even without bubble dynamics, such that market prices reflect the fundamentals of office valuation, this translates into a binding constraint on the declared valuations. Indeed, current officeholders would only wish to sell their charges at  $p_j \geq V_j$  and a competitive market for rents would raise  $p_j$  to  $V_j$ . This, combined with a no-arbitrage condition in the market for offices, such that no officeholder would leave "*livres on the table*" by fixing a maximum sale price  $100c_j$  below the market value of his charge implies  $V_j = p_j = 100c_j$  or:

$$100c_j = \pi \frac{g_j(1 + e_j) + 100c_j}{r + \pi} + (1 - \pi) \frac{g_j(1 + e_j) - c_j}{r + \pi} \quad (8)$$

and solving for  $c_j$  we get:

$$c_j^* = \frac{1}{100r + (1 - \pi)} g_j(1 + e_j) \iff \ln(c_j^*) = \ln [g_j(1 + e_j)] - \ln(100r + \pi - 1) \quad (9)$$

Expressions (6) and (9) are observationally equivalent when running a model like (7) although the structure of the error term is different. Unlike in (6), we cannot directly measure  $\pi$  from  $u_j$ , but since the error term is an increasing function of  $\pi$  we can still uncover the *relative* probabilities of the exercise of the call for each group of holders of the same office. We can also benchmark these relative estimates by comparing them with the residual corresponding to a situation where officeholders did not believe the call threat, i.e.  $\pi = 0$ . For this value of  $\pi$  (9) implies  $\frac{c_j}{g_j(1+e_j)} = \frac{1}{100r+1}$  and this expression takes values very similar to the adjustment factor in (6) (up to two decimal points). For instance, with  $r = 5\%$  it also takes a value of 0.167.

### 3.3 Risk-averse officers

An obvious implication from risk-aversion on the part of the officers is that they would be less sanguine about overvaluing their charges even when they expected a high probability of call (equivalently a large  $\hat{e}$ ). Consequently, the optimal declaration of the *centième* will no longer exhibit the discontinuity as in risk-neutral case.

Since we cannot recover how risk-averse officers were at the time, we will introduce risk-aversion in a controlled way, by assuming log utility. As is well known, log utility has constant relative risk aversion, which allows us to distinguish the true discount rate  $r$  from the degree of risk aversion. As already mentioned, this is necessary to identify the empirical model. Under this assumption, the officers' problem becomes:

$$Max_{c_j} V_j = \ln [g_j(1 + e_j) + 100c_j] \frac{\pi}{\pi + r} + \ln [g_j(1 + e_j) - c_j] \frac{1 - \pi}{\pi + r} \quad (10)$$

and its FOC is:

$$c_j^* = \frac{101\pi - 1}{100} g(1 + e) \quad (11)$$

Combined with (4), this expression allows solving for the equilibrium values of  $c_j^*$  and  $\pi^*$ , but since the expressions are algebraically cumbersome we represent the outcomes in Figures 3 and 4, which are the counterparts of Figures 1 and 2 in the risk-neutral case.

#### Figures 3 and 4 here

The significant departure of Figure 3 from Figure 1 is the shape of the officers' reaction function, as defined by expression (11). The equilibria now typically happen in the 'right arm' of the King's

reaction function (unlike the risk-neutral case). To each level of  $g(1 + \hat{e})$  corresponds a different reaction function for the king, three of which are represented in Figure 3: 61.4, 6 and 69. Since we continue working with the example of an office with annual income of 60 *livres*, the first case represents a prior slightly overvalued (by 2.3%), the second a very reduced prior relative to reality (10% of the true income) and the third a 15% overestimation. In the first and third cases there are two possible equilibria (for instance  $E_{61.4}$  and  $E'_{61.4}$ ). However, only one is stable, namely that involving higher *centième* declaration and probability of call ( $E_{61.4}$ ).<sup>21</sup> There is an indeterminacy region, brought about by the discontinuity in the king's reaction function for values of the prior between 0.18 and 0.32. For values below 0.18, the stable equilibrium (exemplified by  $E_6$ ) is the lower one. Within this region any value of  $c_j$  is consistent with the king's reaction function (4) and, in particular, the optimal declarations given by 11.

Figure 4 then solves the model for a range of possible ratios between the king's prior about the income of the office and its true income. The optimal *centième* declarations increase with this ratio, as in the risk-neutral case, but now also the optimal probabilities of call. Moreover, for a ratio of 1.023 (or  $g(1 + \hat{e}) = 61.4$  *livres*), it is optimal for the officers to declare the true after-tax income of their office, i.e. 10 *livres*. Replacing this value in the kings' FOC (4) we get a value of  $\pi^* \approx 0.17$ , almost coincident with the thresholds derived in the version of the model with risk-aversion and also in the simpler model of subsection 3.2. In fact, the three threshold expressions are equivalent up to two decimal points. Given this, the empirical counterpart of the optimal *centième* in the model with risk-aversion is going to be observationally-equivalent to (6) and (9). This can be shown with a simple algebraic manipulation:

$$\begin{aligned} c_j^* &= \frac{101\pi - 1}{100} g(1 + e) \\ &= \frac{100r + 1}{100} (101\pi - 1) \frac{g(1 + e)}{100r + 1} \end{aligned}$$

and taking logs:

$$\ln(c_j^*) = \ln\left[\frac{g(1 + e)}{100r + 1}\right] + \ln\left[\frac{100r + 1}{100} (101\pi - 1)\right] \quad (12)$$

The first term of the RHS is the true ex-tax value of the office if  $e$  were observable, and the second term is a residual, which is greater than zero iff  $\pi > 0.17$ , the threshold value for which it becomes optimal for officers to overvalue their charges in this model.

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<sup>21</sup>We discount the equilibrium  $E'_{61.4}$  for the standard reasoning that a disturbance to any of the reaction functions would lead to explosive dynamics.

## 4 Estimation

We now detail the sources of data and the estimation procedure of equation (7). In particular, because we are taking location as a covariate in a cross-section of office values we will deal with the issue of spatial auto-correlation.

### 4.1 Data Sources

The source of the data on the dependent variable are the books of receipts of the *centième denier* kept at the French National Archives in the repertory of the *Chambre des comptes de Paris* (series P). These books are organised by year and fiscal province. As mentioned previously, officeholders resisted the application of the 1771 Edict and some took a while before making their declarations and starting to pay the new tax. To capture these cases we gathered the data for each province twice - for the first year of application of the *centième* 1773 and for 1775. The latter books include numerous cases of “*omissionnaires*,” who paid one or two years of tax arrears. Between these two dates, the regime of the *centième* had also been extended to new classes of offices initially left out of the 1771 Edict. The main case were the *barbiers-perruquiers* (barbers-wigmakers), who had to make their declarations in 1774.<sup>22</sup>

During the *Ancien régime* France was divided in fiscal provinces called *généralités* or *recettes générales*, named after the officer responsible for the regional tax collection, the *intendant général*. The number of *généralités* varied in time, but in the early 1770s there were 36 such circumscriptions. The books of the *centième* cover 32 of these, while missing the *généralités* of Orléans, Strasbourg, Perpignan and Bastia (Corse). The main omission is Orléans, a large province, whose books went missing from the National Archives. The other three are peripheral locations and relatively small.<sup>23</sup> Table 1 lists the data by *généralité*. The total number of officers covered is slightly above 22,000 in both years, although the lists are not entirely coincident, because of the “*omissionnaires*” in 1773 and the new offices covered in 1774.

**Table 1 here**

Apart from the missing four *généralités*, there are also four other provinces for which the data is only available in one of the years (Aix, Châlons, Pau and Riom). Tax compliance does not seem to have been ideal, as in some *généralités* the number of paying officers in 1775, despite

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<sup>22</sup>To avoid including evaluations received after the demise of Maupeou-Terray we originally set out to collect the data for 1774. However, the majority of the volumes for this year were in poor condition, so we had to resort to 1775 instead. In any case, the vast majority of offices were due for evaluation up to 1774.

<sup>23</sup>In fact, some of the offices in these *généralités* were recorded in the second volumes of the *généralité* of Paris. However, they are too few to be representative.



the “*omissionnaires*,” was actually smaller than in 1773! Consequently, and to minimise attrition through tax evasion, we build our sample combining the non-repeated offices that paid the tax in either 1773 or 1775.<sup>24</sup>

Apart from the tax itself, each receipt of the *centième* always contains information on the name of the holder and the location where he exercised the office, which allows us to geo-reference the data. On occasion, the receipts also include complementary information about the status of the officer or the office. Since the *finance* of an office was independent from its actual exercise there were cases where the declaration of the *centième* was made by creditors who had seized the office from their debtor’s estate or by investors (individually or in group) who had invested in an office, which they leased to a *commis*. Curiously, many titled members of French aristocracy show up in the lists of the *centième* as investors in this type of asset. Although almost completely barred from public office, women are also among the investors in offices. Finally, offices left in inheritance to minors were evaluated by the tutors administering the estate during the minority of the heirs.

The 1771 Edict did not apply to some of the most expensive venal offices in France, namely those in the sovereign courts (*parlements*), which were being abolished by Maupeou’s judicial reform, but also the offices in other high courts (*cours des aides, chambres des comptes*) and the chancellery. Despite that, the books of the *centième* contain several hundreds offices, with valuations varying from the millions to less than a *livre*.

Moving on to the RHS variables, the books of the *centième* themselves are again the source for data on *gages* and the numbers of competing offices in a location. Another source we used to track down the *gages* are the *Etats des finances*, an annual account of the revenues and expenditures of each *généralité*, which the local *intendant* had to send to Paris.

We geo-referenced localities mentioned in receipts from the GeoNames database.<sup>25</sup> The rate of matching was quite high and over 90%. The main source for the population of these localities are the volumes of the *Dictionnaire universel de la France ancienne et moderne*, published between 1723 and 1726 by Claude-Marin Saugrain. There are two caveats with using this data. First, it is not clear how Saugrain estimated the population figures –certainly not on the basis of a modern census (Reinhard et al. 1968).<sup>26</sup> Second, the figures refer to almost 50 years prior to the *centième*. Nevertheless, they constituted the most detailed compilation of population estimates throughout France available in 1771. And since they were public they could be used by the administration as an indicator of the relative value of local offices.<sup>27</sup> In a few missing cases, we resorted to the figures

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<sup>24</sup>The *Direction générale de liquidation* was still finding “*omissionnaires*” after 1791 to whom it discounted the missing payments of the *centième* from the value of their reimbursements (Lafon 2001)!

<sup>25</sup> Available free of charge at [www.geonames.com](http://www.geonames.com)

<sup>26</sup> Saugrain started by estimating numbers of households (*feux*) for every parish in the country (Saugrain 1720), which he later converted into population figures for each locality listed in the *Dictionnaire* (see Saugrain 1723-26).

<sup>27</sup> Terray himself revealed interest in improving population statistics. In 1772 he demanded that the *intendants*

of the 1793 French census.<sup>28</sup> The census is arguably a more reliable source than the *Dictionnaire* but it is also anachronistic. Since we believe that availability of the information at the time is of greater significance than accuracy of population counts, whenever available, we use the data from the *Dictionnaire* rather than the census.

## 4.2 Working Sample

As we are still currently cleaning and merging the data for all the 32 *généralités*, we present here preliminary results for a sub-sample of four provinces—Aix-en-Provence, Besançon, Pau and Riom. These were randomly chosen, except to include at least one *généralité* covered by each of the three forms of levying taxes in France at the time. By decreasing order of autonomy, the country was divided in *pays d'état*, *pays d'élection* and *pays d'imposition*. The first (represented in the sample by Aix) had kept their provincial Estates, whose main prerogative was to negotiate the level and distribution of the provincial tax burden with the local *intendant*. In *pays d'élection* (Pau and Riom) tax burdens were set by the *intendant* in consultation with local *élus*. Despite their name, the *élus* were venal officers with authority to judge on certain tax disputes and to intervene in the distribution of taxes (namely the direct tax, the *taille*) by local parishes. However, they acquired a reputation for inefficiency or partiality and faced successive threats of extinction in 1559, 1653 and 1662 (Marion 1923). In any case, by the end of the 18th century their judicial prerogatives had largely been taken over by competing jurisdictions (the *bureaux de finances* and the *cours des aides*) and they had lost their authority to distribute the *taille* to the tax farmers, who had bought the offices of *receveurs des tailles* (Nagle 2008). Finally, in *pays d'imposition*, which were provinces of recent acquisition, the king did not create *états* or *élections* and retained full authority in levying taxes. We do not expect that the different tax status of provinces would have a special bearing on the local officeholders' evaluations of their charges, though we include representatives from the three tax systems. The only possible influence, that we know of, has to do with the greater density of venal offices in *pays d'élection* than in *pays d'état* (Nagle 2008). The reason being that the *Etats* frequently bought offices from the king to cancel them and avoid the consequences of excessive numbers. Nevertheless, this difference in density should be captured by the variable number of offices, included in the regressions,

Figures 5-8 represent our working sample of four *généralités* in the context of the contemporary borders of the French kingdom. In these four provinces we counted 3099 officeholders who paid the *centième* in 1773 and 1775, distributed by 402 different offices. We were able to match 94% of

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started reporting the numbers of births, deaths in marriage occurred in their *généralité* every year. These data were compiled until 1790.

<sup>28</sup>Available at <http://cassini.ehess.fr>

them to 541 locations, out of which we found population figures for 473. The final sample size was 1319 office-location pairs after discounting data attrition and the repetitions of the same charge by different officeholders. Table 2 provides the summary statistics for the variables in the sample.

**Figures 5-8 and Table 2 here.**

There is a 1000 fold spread both in terms of individual office values and local population sizes. It is unclear how average office values compared with the contemporary distribution of French wealth, as we do not have reliable data on the latter. Nonetheless, the 5770 *livres* declared on average by officeholders, though probably a lower bound on the effective market value of their charges, represented almost 13 times the annual wages of skilled workers in Paris at the time (450 *livres*) or 23 times the wages of unskilled workers (250 *livres*), according to Allen (2001). Figures 6 and 7 show a rough proportionality between population sizes and number of officers per location. However, the total values of offices per location are much more concentrated than population (Figure 8), so we need other variables to span the officeholders' evaluations. Relative location will be part of the story here, as well as local competition for office (that could erode the rents of individual charges) and historical heritage. An office in a place well connected to large towns or along the main trading routes would probably command a higher value than the same office in a more isolated location. Once established, offices were not usually extinct (Maupeou's reforms being a notable exception), even if the localities where they were based had fallen down in importance, or the purpose they had been created for had been superseded. Consequently, we sometimes found larger-than-expected numbers of officers in small towns.

Another way of expressing the concentration in office values is to look at the distribution of valuations. Figures 9-11 exemplify this with the kernels of the *centième* payments for four different offices (the vertical lines represent the median *centième* payments). The distribution of the three law offices are skewed to the right, as expected.<sup>29</sup> The median valuation of a notary position was 1000 *livres*, compared with 1500 for *huissiers* in *présidiaux* (ushers) and 3000 for *procureurs* (solicitors). Wigmakers have an interesting bimodal distribution that seems to lend some credence to the contemporary complaints about the king's excessive creation of these charges in larger towns. For instance, the 1200 wigmakers of Paris complained that despite their closeness to the royal Court they derived a lower income from their offices than their *confrères* in smaller cities (add reference?).

**Figures 9-11 here.**

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<sup>29</sup> *Présidial* courts were established in 1551 as mid-level civil courts between the *bailliages* and the *parlements*. By the end of the 18th century many *présidiaux* outside major cities had fallen in decadence, though their offices were ubiquitous in the books of the *centième*.

### 4.3 Preliminary Results

We now turn to the estimation method and results based on the working sample of 1319 offices in the four *généralités*. We estimate a cross-sectional model as in (7). As shown in Table 2 the LHS and RHS variables have similar variances, which should guarantee a good fit if indeed the covariates explain the observed variation in the *centième* evaluations. Given the unexpected nature of Terray’s Edict, we do not expect to face serious endogeneity issues, apart from those already flagged up in section 3.

The only final methodological consideration has to do with the presence of spatial auto-correlation, which we suspect based on a number of theoretical and historical reasons. First, some officeholders postponed complying with the Edict until they had communicated with their peers in other locations (Doyle 1996). This correspondence would naturally introduce serial correlation in the values of the dependent variable. Second, even though we include two distance variables from each location –to Paris and to the provincial capital–, it is likely that office values were influenced by the urban network. Similar offices in different locations could vary in value because of the relative proximity of those locations to larger centres or trade routes, from which more business could be attracted. Finally, the catchment area of some offices is likely to be misidentified in the *centième* source. This appears obvious in the case of rural notaries, located (for tax purposes) in tiny hamlets while paying a respectable tax, which probably meant that they catered to a wider population dispersed by the surrounding countryside.

It is therefore unsurprising that we could not reject the presence of spatial autocorrelation in the model. The LM tests for the three types of spatial autocorrelation (error, lag and global) on Table 3 uniformly reject the absence of autocorrelation. Moreover, having tested several types of spatial autoregressive models, the general spatial model had the best fit, as measured by the usual Bayesian criteria. This model allows for spatial autocorrelation both in the dependent variable and the error term (Anselin 1988, LeSage and Pace 2009). The latter might occur because of omitted variables or measurement errors. We therefore estimate the following model:

$$\mathbf{c} = \beta \mathbf{X} + \lambda \mathbf{W}_1 \mathbf{c} + \mathbf{u} \quad (13)$$

$$\mathbf{u} = \rho \mathbf{W}_2 \mathbf{u} + \mathbf{e} \quad (14)$$

where  $\mathbf{W}_1$  and  $\mathbf{W}_2$  are distance matrices. We think that an economic distance matrix captures better the interactions between locations that we just mentioned –as opposed to simple great circle distances. Indeed, for office values it should have mattered more that a small location lay near a larger town or city, than two small villages located next to each other. Consequently, we model

distance between two locations  $a$  and  $b$  as a negative exponential function:

$$w_{ab} = pop_a pop_b e^{-\beta d_{ab}}$$

where  $w_{ab}$  is element (a,b) of the matrices  $\mathbf{W}$ ,  $pop$  stands for local population and  $d_{ab}$  for the great circle distance between the two locations. Ideally, we would directly estimate the parameter  $\beta$  but that would involve a very heavy estimation procedure, so we follow the literature in taking a fixed value, in this case  $\beta = 1$  (Fingleton and Le Gallo 2008).<sup>30</sup> The results of the estimation are on Table 3.

**Table 3 here.**

The model passes the specification FRESETS tests of DeBenedictis and Giles (1998) so that it should not be affected by omitted variables bias. The coefficient estimates do not vary markedly whether we include or not fixed effects, which is unsurprising given the structure of the data. As we define the unit of observation as office-location pairs most fixed effects drop out. The results are in line with what we expected. Larger populations increase the value of local offices with an elasticity of almost half. The number of competing offices in the same location also decreases markedly their values, while distances from Paris and the provincial capital affect negatively these values. Interestingly, the coefficient on the distance to Paris is both larger and more significant than our measure of regional distance.

To interpret these results in terms of the officers' valuations, we need to focus on the estimation residuals  $\mathbf{u}$ . Going back to expressions (6) and (7), we can benchmark the residuals to a reference value, dependent on the discount rate  $r$ . For  $r = .05$ , this reference value is -1.78 logs or  $e^{\mathbf{u}} = 0.167$ . Figure 12 plots the pdf of  $e^{\mathbf{u}}$  with reference to this value (vertical line).

**Figure 12 here.**

Contrary to most historiography, the evidence points out to a large number of officers who did not undervalue their charges. In this sample 67% of the residuals are above this value.<sup>31</sup> Although the exact threshold is unknown, this is probably a lower bound estimate, since higher values of  $r$  lead to a lower threshold and it is hard to imagine discount rates much lower than 5% in late 18th century France. The evidence, therefore, shows that probably the majority of officeholders responded to

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<sup>30</sup>We tried reestimating with a simple geographical distance matrix and with higher values of  $\beta$  and the tenor of the results did not change.

<sup>31</sup>Note that although we estimated the model with a constant we do not subtract it from the residuals because model (6) does not have a constant, so that by including the constant  $\alpha$  in (7) we are effectively adding  $\alpha$  to both sides of the (6). We confirmed this by running the model without the constant. The percentage of residuals above the cut-off value of -1.78 logs was almost exactly the same (67%).

the revelation mechanism contained in the 1771 Edict, which is consistent with the large increase in the tax collections on offices relative to the previous tax regime of the *annuel*.

Apart from their overall value, another interesting feature of the estimation residuals is their spatial distribution. Even after controlling for spatial autocorrelation, there appears to be systematic differences in the size of the residuals across locations. Figures 13 and 14 plot the deviations of the residuals from the benchmark  $e^u = 0.167$  for two offices—*notaries* and *procureurs* in *présidiaux*.

**Figures 13-14 here.**

The first thing to note is the concentration of large deviations in the Southwest and also in the East (both in the Franche-Comté and in Provence). On the contrary, deviations in Auvergne are remarkably smaller. Second, these patterns are the same for the two offices, which suggests a common reaction on the part of the different classes of local officeholders. Naturally, we need to investigate whether these patterns survive in the broader context of the full sample and also with respect to other classes of offices. If they do, the next step is to look for a reason. One possible avenue here is to connect these patterns with the political events twenty years after. In particular, we are thinking of the patterns of political resistance to the Revolution from 1793 to 1799. Indeed, the Franche-Comté, Provence and the Béarn were among the areas of greater resistance to the new regime, contrary to the Auvergne (Doyle 2002). This would be consistent with an attachment to the *Ancien Régime* by the local elites, who, having valued their charges higher than elsewhere stood more to lose from the abolition of venality. If the patterns of counterrevolution and venality are coincident, this could be a nuanced restatement of the thesis of Cobban (1964) about the social origins of the Revolution.

## 5 In lieu of a Conclusion

This paper has shown the possibility of using the complex features of sophisticated historical assets to infer expectations and valuations. In the case under study, venal offices traded almost as today's preferred stock, with a guaranteed interest charge and a variable 'dividend' top up. The occasion of the 1771 Edict provides us with an exogenous shock to the valuation of these assets, which we use to infer the owners' expectations about the continuation of the system of venality and, accessorially, the degree of undervaluation of their tax declarations. A tax levied on a base chosen by the taxpayers themselves is not a common event in fiscal history. But the interest of the *centième* lies less in its oddity than in what it reveals about one of the key institutions of the French *Ancien Régime*.

The current version of the paper leaves many questions unanswered. Those on the causes and prevalence of venality in France and elsewhere will have to be left for other papers. But there are

some robustness checks to the specific empirical exercise in this paper. The most pressing has to do with the potential endogeneity of discount rates. An IV strategy would be the standard solution here, though the choice of instruments is not obvious. One possibility we are exploring is to use the rate of opposition or procrastination of officeholders to the 1771 Edict as an instrument for their degree of pessimism. The assumption here is that this behaviour would not directly affect the valuations –as other officers in the same location would have already declared the common *finance* that would bind even the *omissionnaires*.

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Table 1: **Data on *centième*, 1773 and 1775**

1773		1775	
Généralité	# officers	Généralité	# officers
Paris & provinces 1er vol.	2745	Paris, 1er vol.	3023
Paris & provinces 2e vol.	3015	Paris & provinces 2e vol.	3806
Aix		Aix	930
Alençon	453	Alençon	466
Amiens	548	Amiens	580
Auch	397	Auch	335
Besançon	854	Besançon	832
Bordeaux	691	Bordeaux	745
Bourges	436	Bourges	446
Caen	458	Caen	462
Châlons	1046	Châlons	
Dijon	1152	Dijon	968
Grenoble	652	Grenoble	639
Lille	167	Lille	263
Limoges	598	Limoges	85
Lyon	767	Lyon	632
Metz	480	Metz	526
Montauban	531	Montauban	407
Montpellier	856	Montpellier	893
Moulins	546	Moulins	517
Nancy	1179	Nancy	1171
Nantes	172	Nantes	258
Pau		Pau	367
Poitiers	629	Poitiers	620
Rennes	715	Rennes	636
Riom	630	Riom	
Rochelle, La	513	Rochelle, La	341
Rouen	715	Rouen	813
Soissons	215	Soissons	156
Toulouse	602	Toulouse	631
Tours	413	Tours	389
Trévoux	51	Trévoux	50
Valenciennes	190	Valenciennes	173
Total	22416		22160

Table 2: **Summary statistics**

	N	mean	cv	max	min
centième (per location)	541	314.0	5.3	23163	1.5
centième (per officer)	2097	57.7	2.4	2600	0.25
population	473	1002.2	2.1	25000	25
number of officers	541	5.7	3.4	219	1

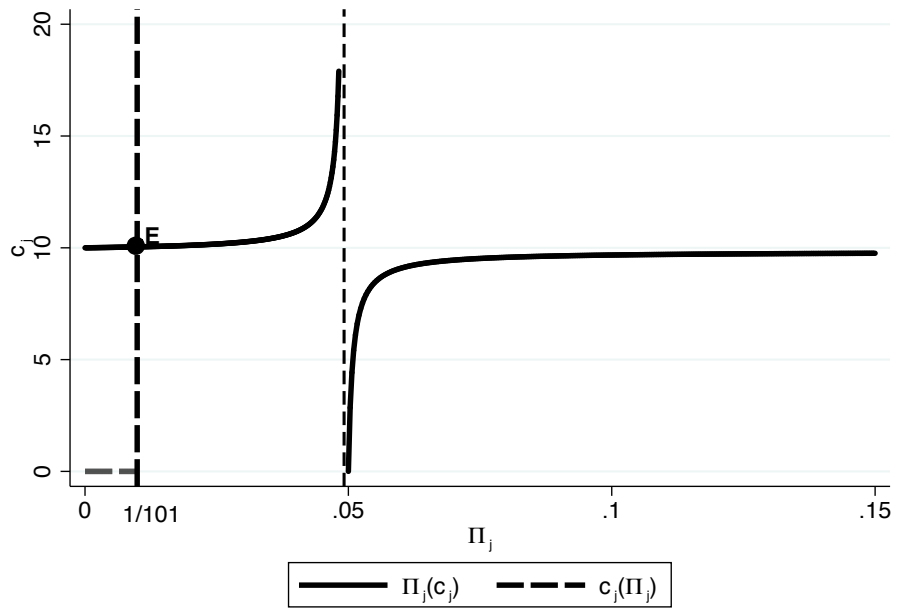
*centième* figures are in *livres tournois*, population and officers in units.

Table 3: **Estimation results**

<b>Variables</b>	<b>(1)</b>	<b>(2)</b>	<b>(3)</b>
	<b>No FE</b>	<b>Loc FE</b>	<b>Off FE</b>
Constant	4.178*** (0.670)	4.179*** (0.671)	4.107*** (0.673)
Population	0.486*** (0.027)	0.487*** (0.027)	0.491*** (0.027)
Number offices	-0.365*** (0.051)	-0.366*** (0.051)	-0.366*** (0.051)
Dist to Paris	-0.699*** (0.110)	-0.702*** (0.111)	-0.696*** (0.111)
Dist to Prov Capital	-0.061* (0.031)	-0.059* (0.032)	-0.055* (0.032)
Observations	1,319	1,319	1,319
R2 (Buse)	0.2964	0.2969	0.2989
R2 (Buse) adjust	0.2948	0.2942	0.2919
Log lik.	-2014.1	-2013.8	-2010.9
AIC	1.511	1.515	1.529
BIC	1.541	1.557	1.622
LM Error	24.8735	24.0329	23.5087
LM Lag	19.5986	18.7434	19.331
LM Global	39.7281	38.2195	38.2288
FRESETS1	1.208	1.276	1.268
FRESETS2	1.106	1.148	1.038
FRESETS3	0.783	0.825	0.716

Robust standard errors in parenthesis. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Figure 1: Reaction functions and equilibrium



In this graph we used  $g(1+\hat{e})=60$  and  $r=0.05$

Figure 2: Private value vs. declared finances

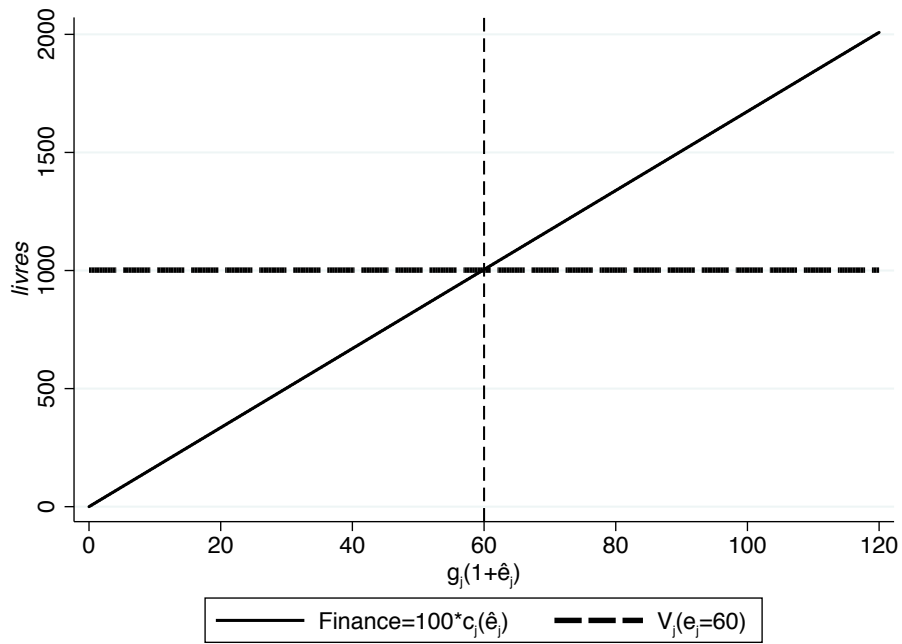


Figure 3: Reaction functions and equilibrium

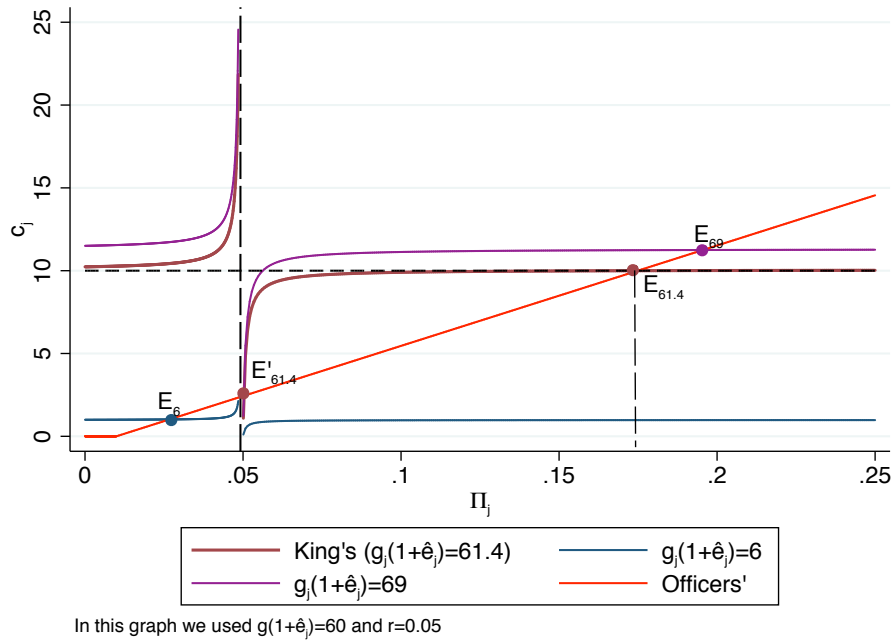


Figure 4: Equilibrium outcomes as a function of the king's priors ( $\hat{e}$ )

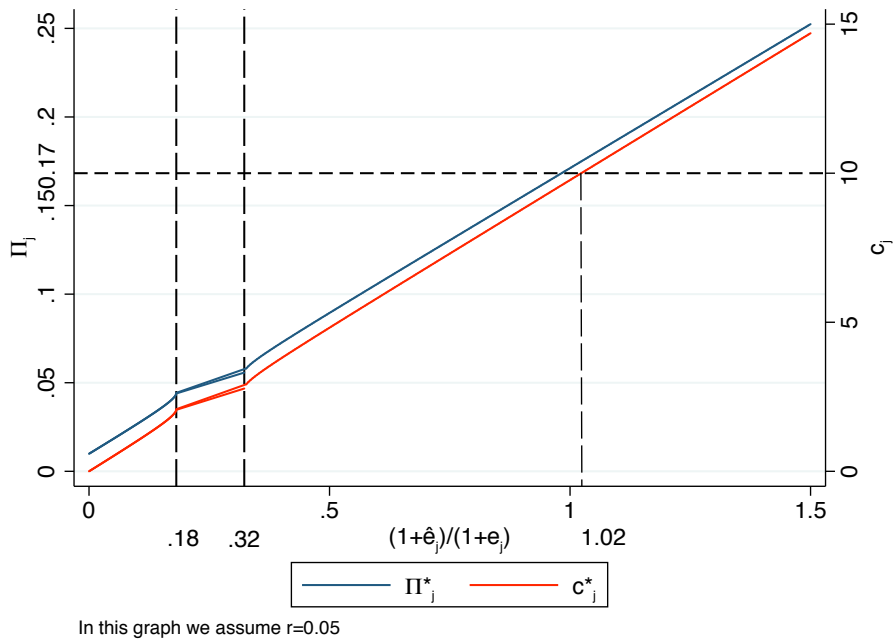


Figure 5: French *généralités*

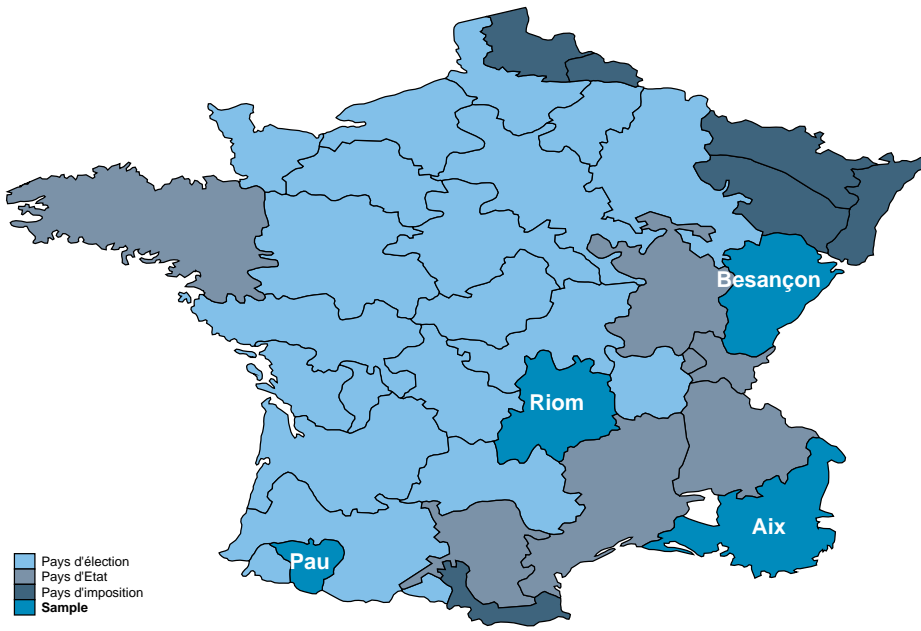


Figure 6: Local population

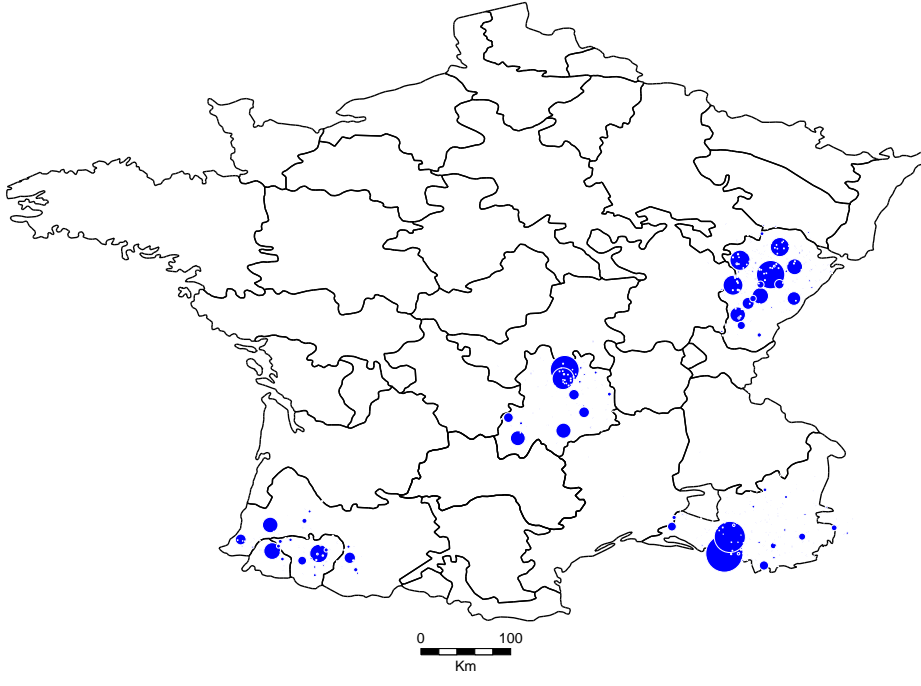


Figure 7: Number of officers

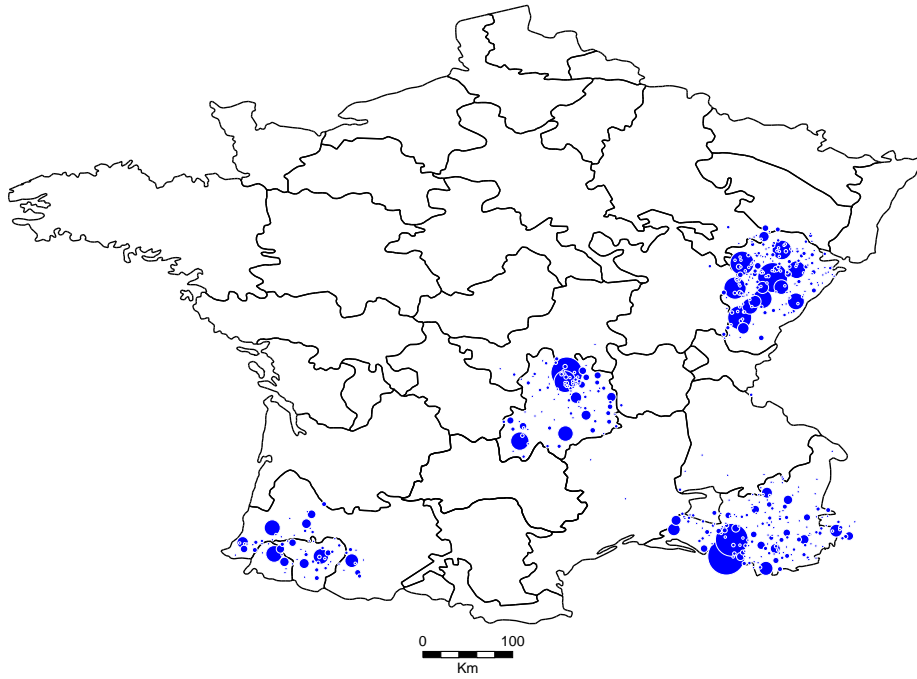


Figure 8: Value of offices (*finances*)

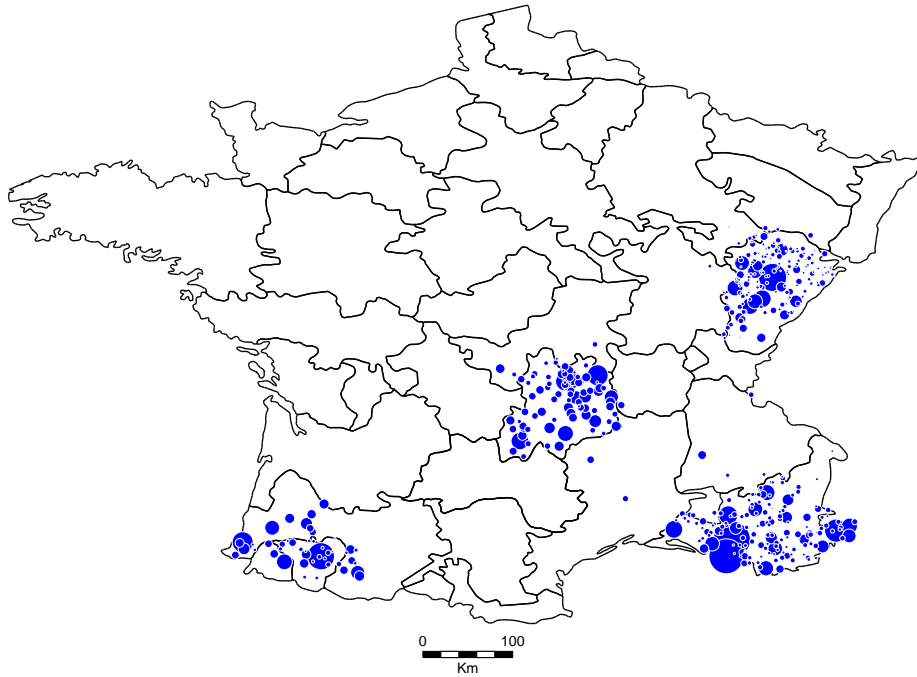


Figure 9: Notaries

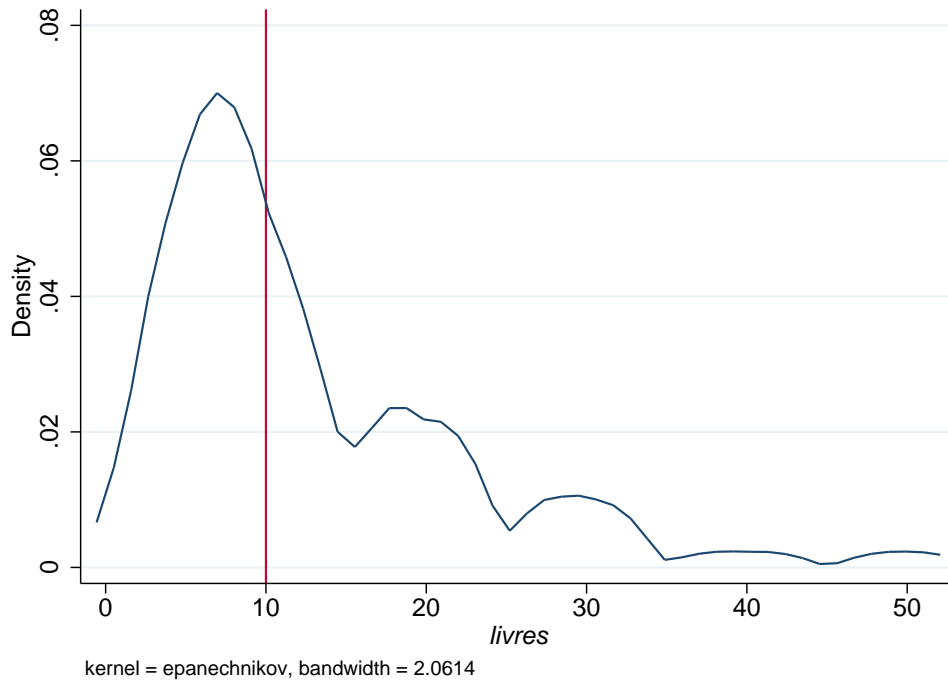


Figure 10: Offices in *présidial* courts

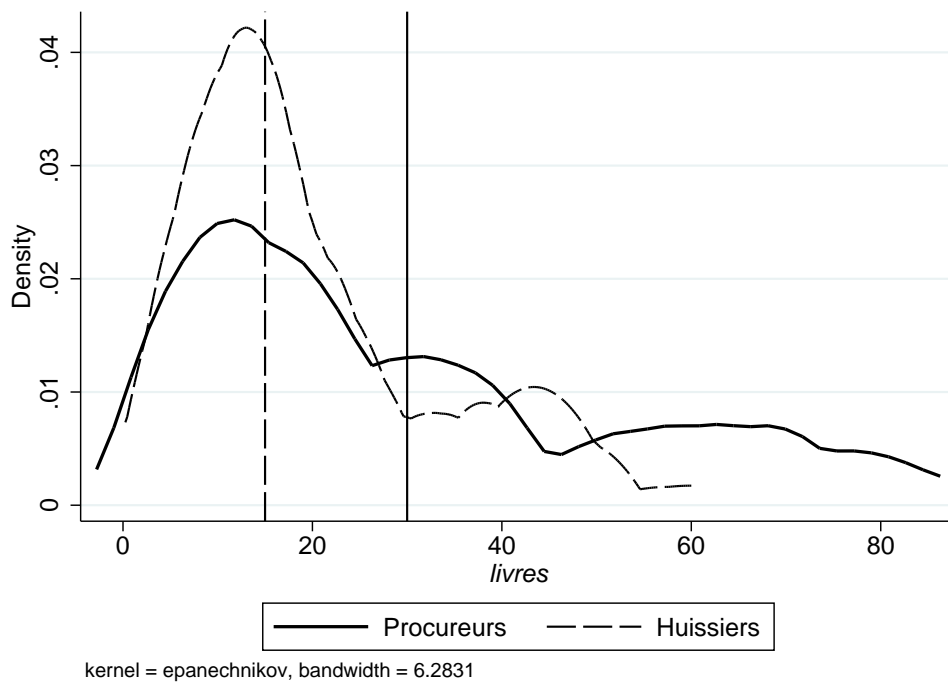




Figure 11: Barbers-wigmakers

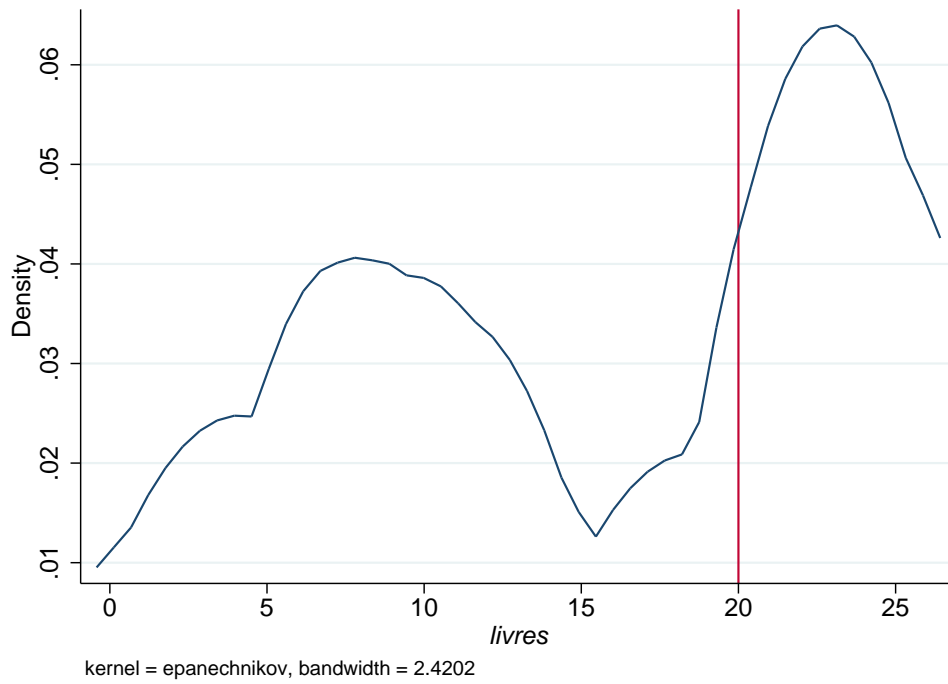


Figure 12: Density of  $e^u$

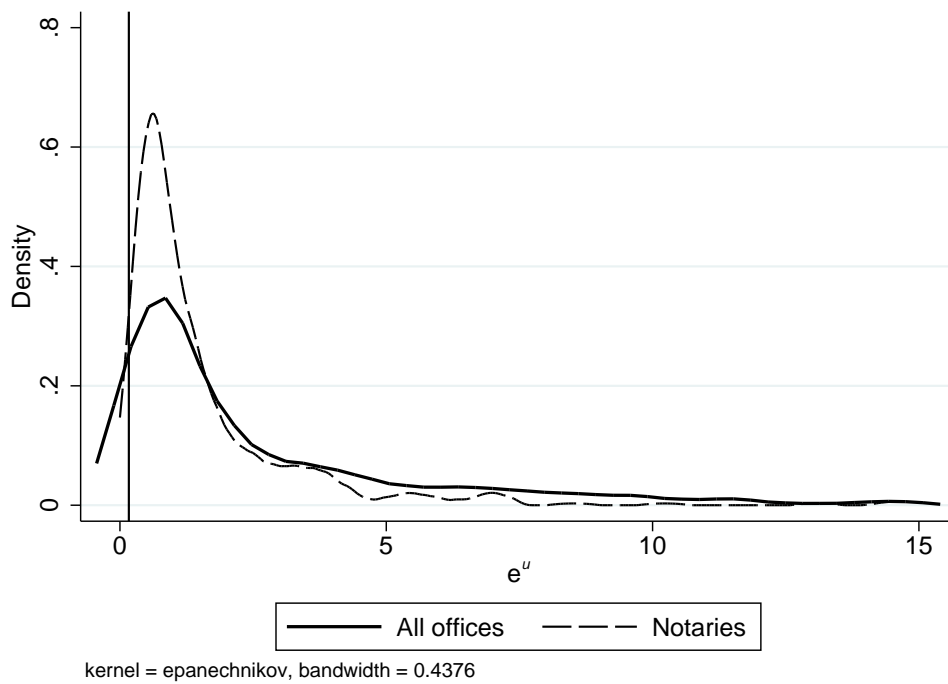


Figure 13: Deviations from  $e^u = 0.167$  (Notaries)

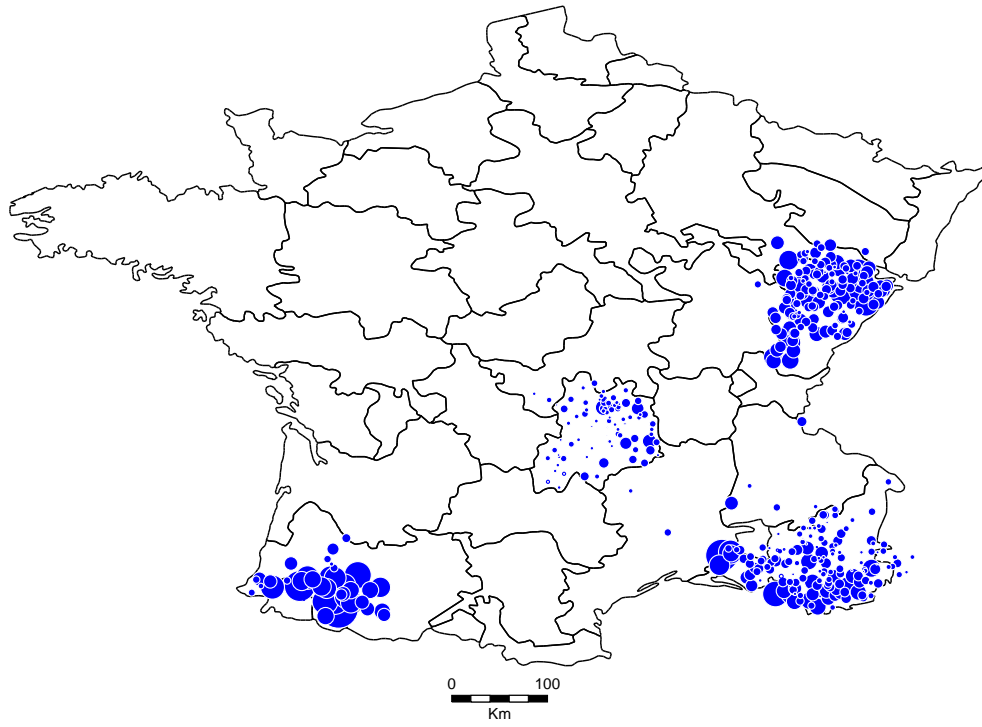


Figure 14: Deviations from  $e^u = 0.167$  (*Procureurs au présidentiel*)

