License to Till:
The Privileges of the Spanish Mesta as a Case of Second Best Institutions*

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Abstract:
The Mesta was the association of the migratory shepherds of Castile, controlling fine wool production between the thirteenth and the nineteenth centuries. Its royally granted privileges have often been blamed for the stagnant Spanish agricultural productivity during the Early Modern period. I argue that the Mesta’s privileges allowed Medieval Castile to develop its comparative advantage in wool, and that the Crown was able to restrict their scope and application when economic conditions favored arable farming interests. I support my argument with extensive archival data, including a new series of wool prices and a detailed analysis of lawsuits involving the Mesta.

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1. Introduction

The idea that institutions are deeply related to economic growth is as old as economics itself (appearing conspicuously in Adam Smith’s *The Wealth of Nations*, for example) and the recent empirical literature has increasingly focused on institutions as the most important determinant of differences in economic performance across countries (Hall and Jones 1999; Acemoglu et al. 2001, 2005; Rodrik et al. 2004). More subtle is the argument that seemingly inefficient institutions might actually improve economic efficiency if other distortions are present.¹ This insight follows directly from the theory of the second-best, which states that in the presence of two or more distortions removing one of them will not necessarily improve economic efficiency, and might well reduce it (Rodrik 2004, 2008).

The second-best approach to the effect of institutions on economic efficiency is particularly relevant in the Medieval and Early Modern worlds, when the geographical, political and technological constraints faced by feudal units and fledgling nation states posed formidable challenges to the implementation of arrangements that would have guaranteed secure property rights and reduced transaction costs. Markets, for example, are usually ranked among the most important institutions in fostering economic development; yet an efficient market in land, the most important category of property, was nothing less than a chimera in most nations before the nineteenth century. Hence institutions that would otherwise hinder the functioning of efficient markets might have actually improved the allocation of land resources in their absence. Along similar lines,

¹ I define a “seemingly inefficient institution” as one whose first order effect on an otherwise efficient economy is negative.
Epstein (2000) and Richardson (2004) argue that Medieval merchant and craft guilds, traditionally labeled as distortionary monopolies, are better characterized as cooperative institutions with the primary function of organizing economic activity and ensuring the preservation and transmission of knowledge.

The experience of Early Modern Spain has many times been cast in the light of institutional analysis, and its failure to keep up with the European economic leaders blamed on a flawed array of growth-stifling institutions including the nobility, the Catholic Church and the trade guilds. None of them, however, rose quite to the status of the Mesta, the national association of migratory shepherds, as the favorite whipping boy of those seeking a culprit for the protracted stagnation of the Spanish economy. Echoing the sentiment of eighteenth century liberal reformers, early and mid-twentieth century scholars blamed the rights of passage granted to migratory shepherding for preventing the development of an enclosure movement, and thus foretelling agrarian productivity growth; the rental privileges that guaranteed the access of flocks to winter pastures were accused of introducing distortions in land markets; and even the export focus of Spanish fine wool was singled out as one of the main reasons for the failure of the country to industrialize.

Since the 1970s, a renewed emphasis on Spanish historiography has largely overturned the old view of the Mesta. The systematic mining of the archives, most notably by Marín Barriguetete (1987), has brought to light a wealth of new data on the organization. The case that the complex institutional arrangements underpinning the Mesta might have served an allocative purpose has been put forward by Nugent and Sanchez (1989), and the different institutional mechanisms at the heart of the operations of the Mesta have been described
in detail by a number of authors, especially Phillips and Phillips (1997) and the several contributions in Ruiz Martín and García Sanz (1998). While the nature of the intricate choreography of shepherds, itinerant judges, towns, landowners, courts and the Crown itself has been described in minute detail, a unifying framework of analysis has nonetheless remained elusive.

This paper builds on the existing literature in two dimensions. First, it draws on the Spanish historiography and on the recent policy literature to contend that the complex set of privileges and organizations linked to the activities of the Mesta are best understood in the context of a second-best institutional arrangement. It then uses new price and litigation data, together with existing export and licensing series, to provide an empirical test for this claim.

The privileges accorded to the Mesta were a tool that enabled Medieval Castile to realize its comparative advantage in fine wool; in the absence of efficient land markets and in view of the logistic problems posed by the long migrations, rights of passage and grazing allowed the optimal economic activity of migratory shepherding to flourish in what would have otherwise been a hostile environment. The Crown, however, could fine-tune the level of enforcement of those privileges in order to strike a balance between agricultural and shepherding interests, tilting the property rights environment in favor of the sector in whose favor the terms of trade were evolving at any given time and responding to local political realities. A combination of seemingly inefficient privileges and selective enforcement is obviously inferior to a well-functioning market in land and in rights of passage. In the absence of such a market, however, this combination can easily be construed as a second-best institutional arrangement.
In the period between 1550 and 1600 demand for Mesta wool declined abruptly for largely exogenous reasons. This variation makes it possible to identify the response of the political variables that determined the enforcement of the Mesta’s privileges. I use a new series of fine wool prices deflated by an index of traded goods prices as a measure of the comparative advantage of the Mesta’s wool. I then introduce two variables to assess the level of enforcement of privileges: appellate lawsuits to which the Mesta was a party and licenses to till pasture lands. Both measures show that, as the price of Mesta products relative to other traded goods fell, the Crown and the courts increasingly restricted its privileges, allowing farming and municipal interests to take over the resources once reserved for migratory shepherds. The effects are large, statistically significant, and robust to the choice of period and to controlling for the volume of wool exports, for the response of the Mesta itself, and for the fiscal situation of the Crown.

The two new data series presented in this paper contribute to elucidating the economic and political environment in which the Mesta operated. The data on fine wool prices are the first available for the second half of the sixteenth century, thus extending the existing series for over 40 years into the past. I also construct a time series of appellate lawsuits to which the Mesta was a party in the Royal Chancery Court of Valladolid, and show how they can be interpreted as a measure of enforcement of the Mesta’s privileges.

The evidence presented here cannot ultimately answer the question of whether the privileges granted to the Mesta were the most efficient feasible institutional arrangement

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2 The main market for the Mesta's wool were the Low Countries. The flare up of the Dutch Revolt and the ensuing military hostilities resulted in a breakdown of commerce through the Castilian northern ports. At the same time, the emergence of the Nouvelles Draperies, technologically engineered to take advantage of British wool, weaned the Flemish and Dutch industries from their dependence of Spanish imports. While wool was also exported to France and Italy, the lost northern exports accounted for perhaps half of Castile's wool output, thus dealing a major blow to the industry.
to solve the allocative problems faced by agriculture and shepherding in Early Modern Spain. It does however show that, through a varying level of privilege enforcement, factors of production continued to flow to the sectors where they were most productive during the critical Spanish “Golden Century.”

2. The Mesta and its privileges

Migratory shepherding, also known as transhumance, has been practiced in most of Europe since at least Roman times; its guiding principle is to keep the flocks exposed to mild temperatures throughout the year for optimal health and wool quality, which entails their spending the summers in the highlands and moving to lower altitude pastures for the winters. In most places where transhumance exists sheep are on the move for just a few days; Spain is unique in that its sheepwalks extend for up to 800 kilometres, posing formidable logistic and political challenges.

The battle of Las Navas de Tolosa in 1212 marked the turning point in the Christian Reconquista of Arab Spain, substantially reducing the territorial extension of the Almohad empire and opening Andalusia to Christian settlement. The Castilian kings moved in with their armies but, in what amounted to a veritable frontier movement, struggled to repopulate their new dominions. Transhumance could thrive in this politically unstable and largely unpopulated landscape. The migratory flocks helped the Castilian monarchs to establish a visible presence in their new territories; they represented the efficient economic activity in light of the relative abundance of land; and they could quickly remove to their highland bases if the military situation turned volatile. Migratory shepherds pushing south soon encountered a serious hold up problem.

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3 See Bishko (1963) for an economic interpretation of the Reconquista as frontier movement.
Migrating over longer distances required more rest, feeding and watering stops, while the lengthening sheepwalks had to cross more bridges and mountain passes; towns along the way had strong incentives to act as hold-ups, each trying to extract taxes, tolls, and charges for accessing common resources from passing flocks.

The Honourable Council of the Mesta emerged sometime in the thirteenth century as an organized body representing the interests of the northern Castilian migratory shepherds. To address the hold up problems faced by its members, the Mesta negotiated directly with the Crown, offering tax revenue in exchange for two broadly defined sets of privileges. The first one guaranteed free passage through clearly marked “royal sheepwalks” and the use of certain commons belonging to towns along those routes. The second, eventually consolidated with the emergence of the so-called right of posesión in the sixteenth century, consisted of several forms of rent control that sought to guarantee a shepherd continuing access to the pastures at stable prices. The enforcement of the privileges was removed from the jurisdiction of local justices and placed in the hands of itinerant royal judges, the jueces or alcaldes entregadores. The arrangement enabled the rapid expansion of transhumant shepherding, an activity in which Spain held a clear comparative advantage throughout the Middle Ages, while the Crown obtained a fresh tax revenue stream and reaped the political benefits of a stronger presence in southern lands.

4 This summary description by no means does justice to the enormous body of privileges accumulated by the Mesta over its life, nor to the excruciating detail contained in each of them. Privileges granting access to town commons, for example, specified the number of days flocks were allowed to stay in them, which sections of a commons they were allowed into, how much wood a shepherd was allow to cut from local trees, which watering places the flocks were allowed to use, and so on. Throughout them, pains were taken to protect local interests as much as possible while guaranteeing the logistic support for transhumance. The definitive collection of Mesta privileges remains Díez Navarro (1731). For an excellent survey and analysis of the privileges through time, see García Sanz (1998).
The traditional view of the Mesta as one of the main retardants of Spanish economic development contended that its privileges were the result of its own opportunistic rent-seeking behavior coupled with the Crown’s appetite for revenue at any cost. While the privileges might have actually been optimal for the economic conditions of Medieval Castile, the argument went, their persistence well into the eighteenth century was at odds with the changed economic reality, preventing enclosures, reducing agricultural productivity, and generally impeding the development of efficient property rights. Such views were born of the political climate of the late eighteenth century, when liberal reformers made the abolition of the Mesta the main goal and acid test of their program, which nonetheless failed to take root until the 1830s. By focusing on a literal interpretation of Mesta privileges, the economic history literature published between the 1920s and the 1970s picked up a version of the liberal reformers’ portrait; thus Julius Klein, in the first scholarly study of the organization, sentenced that the privilege of posesión was “one of the larger roots of the evil growth which strangled not only the agrarian life of Castile but also the political morale of the country” (Klein 1920, p. 326); Vicens Vives (1969, p. 304), in his classic manual of Spanish economic history, comments that “instead of waiting for a few years until the development of agriculture would bear fruit, the monarchs chose to follow the easy path of their predecessors and collect money on something as tangible and easily taxable as sheep;” Elliot (1968, p. 119) writes that “the favouring of sheep-farming at the expense of tillage can only appear as a

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5 The original public indictment against the Mesta was the report on the proposed reform of agrarian law written in 1793 by Gaspar Melchor de Jovellanos, perhaps the most influential political writer of his time, on which many of the original scholarly studies of the Mesta drew upon. In it he denounced “the monstrous, unfair and exhorbitant privileges of migratory shepherding,” labeled the Mesta “an offense in the eyes of society,” and demanded its prompt abolition. He nonetheless recognized the value of royal sheepwalks, recommending that they be preserved under royal tutelage. (Jovellanos 1795, pp. 41-50).
willful sacrifice of Castile’s long-term requirements to considerations of immediate convenience”; and North and Thomas (1973, p. 130) conclude that “the decrees favoring the Mesta effectively thwarted the development of efficient property rights on land.”

In the almost nine decades since the publication of Klein’s book, Spanish historiography has thoroughly redefined our understanding of the composition of the Mesta, the origin and scope of its privileges, and the level of enforcement that the relevant authorities accorded them. Bishko (1963) and Pastor de Togneri (1970) shed light on the origins of the Mesta in the context of the frontier movement of the twelfth and thirteenth centuries, highlighting the contribution of royal protection to the opening of southern pastures and the economies of scale that led to highly concentrated shepherding operations. García Sanz (1998) presents a fresh view of the evolution of royal privileges throughout the life of the Mesta, showing that none of them were absolute in their scope or applicability. Both the letter of the law and, more often, the way it was applied, reflected a concern for balancing the needs of agricultural interests with transhumant and sedentary shepherding. While Mesta flocks were guaranteed passage through municipal lands, for example, there were strict regulations in place to prevent them from exacting an undue burden on town resources. The right of posesión, one of the most reviled Mesta privileges, seems to have been severely limited in its enforcement. Marín Barriguete (1998) documents extensively how the mechanisms of rent control were largely ignored by landowners, and how Mesta members themselves had few qualms in bidding up the rental price of a field, to the detriment of their fellow “brothers,” when grazing lands were scarce. If posesión appears as the most conspicuous privilege in the legal code of the Mesta, Marín Barriguete
argues, it is likely because repetitive affirmation was the only, if ineffective, remedy the organization found to combat its lack of enforcement.6

As the straightforward view of the Mesta and the Crown as a symbiotic rent-seeking duo gave way to a much more complex picture, the lack of a theory that could explain the rationale for the institutional arrangements governing the allocation of land and the relationship between arable farming and husbandry also became evident. In an attempt to fill this void, Nugent and Sanchez (1989) suggested that, in the presence of externalities created by the high cost of building fences, the Crown might well have acted as a central planner, allocating property rights by decree to achieve an efficient distribution of resources and taxing away any surplus rents created in the process. In the absence of means to prevent sheep from straying into agricultural plots, the argument goes, the privileges granted to the Mesta created incentives for plot owners to internalize the neighborhood effects. Ekelund et al. (1997) have further noted that any theory of the Mesta’s contribution to Spanish economic development must incorporate the role of the towns and the courts as independent rent-seeking agents.

The idea that the Mesta was part of a complex mechanism of property rights’ allocation that exhibited at least some desirable features in terms of efficiency has been latent in the historiographical literature in more or less explicit form, emerging in discussions ranging from the flexibility of the apparently rigid legal framework to the ecological virtues of

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6 See also Phillips and Phillips (1997, p. 58). In a private communication Enrique Llopis Agelán mentioned that, as late as the eighteenth century, sales of grazing fields mentioned whether the plots were encumbered by posesión or not. It is thus possible that some level of enforcement persisted. The definitive test to elucidate the matter would be to compare sale prices of plots with and without posesión, something that my data do not allow for.
transhumance within the Iberian geography. Nugent and Sanchez’s formulation has the virtue of being quite explicit and specific, but it lacks a direct empirical test and relies on the debatable assumptions that it was costly to exclude animals from entering specific plots and that most plots would have been small enough for exclusion to be a concern. Marín Barriguete (1987) conclusively shows that the enforcement of Mesta privileges was imperfect, and delineates the main temporal patterns in the evolution of property rights; García Sanz (1998) restates these findings, analyzing individual privileges and discussing their level of enforcement in detail. These works pave the way to formulate a theoretical framework that can help to understand the forces driving enforcement levels, as well as their efficiency and allocative consequences.

3. Second-best institutions

Since its formulation by Lipsey and Lancaster (1956), the theory of the second best has been a mainstay of economic analysis. While it would seem natural to extend its insights into the field of institutional analysis, the only general attempt to do so have been two recent policy contributions by Rodrik (2004, 2008). A number of studies exhibit features that resemble second best institutions. In Acemoglu et al. (2006), for example, countries that are away from the technology frontier benefit more from capital investment rather than from research and development. In this case, institutions that generate economic rents, usually suboptimal, are a second best solution in that they make resources for

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7 On the adaptability of migratory shepherding to the Iberian landscape see Cabo Alonso (1998).
8 The Nugent and Sanchez model hinges on the existence of negative neighborhood effects arising from grazing sheep next to farmed plots. While perhaps a valid concern within a village terminus, there was certainly no such problem in the winter pastures, which consisted of vast ranges dedicated exclusively to grazing and were occupied by very large flocks. The argument also rests on the excessive cost of building fences because of the chronic shortage of wood in Castile; stone fences, however, are common in the Spanish landscape. If they were not built, it was likely as the result of legal restrictions, or because there was little need for them.
investment available. Qian (2003) interprets Chinese economic growth as an application of non-standard institutions that allowed the economy to develop while maintaining the rents of the elite. Acemoglu (2006) provides a general model of inefficient institutions and finds that, in the special case when commitment or hold-up problems exist, these inefficient institutions can be useful to protect the rights of specific groups in the economy. This latter case seems quite germane to that of the Mesta, whose activities would have been held-up by towns in the absence of apparently inefficient privileges.

Introducing a general theory of second-best institutions is beyond the scope of this study. To proceed, it is only necessary to define them precisely. I shall follow the lead of Rodrik (2008) in defining second-best institutions as those that relax the binding constraint on economic growth while being compatible with the political and economic environment. Best-practice policy would have counseled the creation of a free market in land in early modern Castile. I shall argue that hold-up problems and political realities made this infeasible, and that the legal privileges granted to the Mesta combined with variable enforcement levels constituted the best attainable solution at the time.

By the very nature of second-best arguments, it would be possible to build many frameworks in which, given some form of market failure, an externally introduced distortion raises the level of efficiency. As an example, and in line with the suggestion of Ekelund et al. (1997), one could envision a lobbying framework à la Grossman and Helpman (1994), in which both towns and Mesta offered payments to the Crown in exchange for property rights protection. The evolution of their relative contributive capacities through time would determine the level of property rights enforcement; if contributive capacity were related to the marginal productivity of land in the hands of
each player, the eventual allocation, while wasteful from a first-best perspective, would still reflect a measure of efficiency. This type of theoretical exercise, however, seems moot without establishing first that the evolution of property rights over time did in fact respond to, or at least move in a direction consistent with, the efficient allocation of resources. The rest of the paper shows that this was indeed the case during the second half of the sixteenth century, a period in which, owing to the decline in international demand for fine wool and increasing population pressure in Castile, the friction between shepherding and agricultural interests was most intense.

4. The wool trade in the second half of the sixteenth century

One of the main hurdles in studying the decline of the wool industry in the sixteenth century is the dearth of price data for any type of Spanish wool or woollen products, either in Spain or in its export markets. Phillips and Phillips (1997) have collected the few available series of early modern wool prices in Spain and abroad; while from 1600 on some reasonably continuous series of varying quality exist, only a few scattered observations are available for the sixteenth century. This section presents a new series collected from the account books of the Hospital de la Misericordia in Seville covering the period 1568 – 1603, and discusses its usefulness to assess the evolution of the market for Spanish wool.

Among its many functions to which the modern meaning of “hospital” does not do justice, the Misericordia was charged with providing the trousseaux that nuns were given during the Holy Week of the year they took their first vows. In order to assemble an

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9 A word now superseded by the times, the trousseau was a collection of fine linens and personal clothing items a bride took into her matrimony. Nuns, as brides of God, were given trousseaux containing fine clothing, blankets, mantelpieces and curtains to take with them into their new convent life.
average of 120 trousseaux per year, the hospital purchased large quantities of fine 
unwashed wool during the summer of the previous year (after the late spring shearing 
was over), paid for its washing and processing, and used it to manufacture the clothing 
items to be delivered the following spring. The quantity and price of each wool purchase 
was duly recorded in the account books by the mayordomo; many times, the name of the 
merchant from whom the wool was purchased was recorded as well. Table 1 reports the 
yearly quantities purchased by the hospital in arrobas (roughly 11.5 kilograms) as well as 
the average yearly unit prices, constructed by weighting the unit prices of each 
transaction by the quantities purchased.\textsuperscript{10} The account books from three years are missing 
(1567, 1570 and 1574), and in 1601 and 1602 the hospital purchased wool already 
washed and bleached, the prices of which are not comparable to the rest of the series.\textsuperscript{11}

\textsuperscript{10} Wool was purchased by volume rather than by weight. Domestic transactions were conducted in \textit{arrobas} 
– a measure of volume – while exports were denominated in sacks. This makes it difficult to provide 
precise weight estimates for the Misericordia purchases. The definition of the relevant measures varied by 
localities, while compression and moisture could also affect the weight of a specific volume of wool.

\textsuperscript{11} The complete list of transactions, together with the rest of the data series presented in this paper, are 
available at http://mauricio.econ.ubc.ca/data/Mesta_data.xls
The data from the Hospital de la Misericordia have several desirable properties. The prices are for unwashed wool, as it was shorn from the sheep, guaranteeing that no processing costs have crept into the series. The average transaction was large (a little over 200 arrobas, or 2,300 kilograms), reducing the impact of intermediation costs. Wool was purchased from many different merchants who had little or no repeat business over time, reducing the possibility of corruption. All transactions were grouped in the same period every year, eliminating seasonality concerns. While the origin and quality of the

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12 Wool exports were also sold unwashed, as leaving the grease on the fibers contributed to preserving the qualities of the wool until it could be processed.
wool is not reported in the books, its use in manufacturing fine clothing (suitable for the ‘wedding’ of the well-to-do women taking up monastic vows) required that its quality be fairly high; and since it was purchased for the exact same purpose every year, it is also likely that the quality did not vary much over time. Even if this particular wool did not come from transhumant flocks, it would have had to be a close substitute, at the very least from sedentary merino flocks. These sedentary flocks were under the jurisdiction of the Mesta until 1603, and the price of their wool would have fluctuated closely with that of export varieties, particularly in times of depressed international demand.\textsuperscript{13}

Since the Misericordia books come to an end in 1604, providing a longer-run picture requires splicing the series to one of the existing data sources. The leading candidate is the wool price series reported in Hamilton (1934), also derived from hospital sources. Hamilton’s series, however, presents several problems. Its yearly prices are a simple average of the first three transactions he found for each quarter (a total 12 observations per year) across a range of institutions, without adjusting for the quantity purchased and without any attempt to discriminate across wool qualities. This introduces, first, an element of seasonality; presumably the summer purchases would have been much larger than those in other seasons, and hence the yearly prices reported, being a simple average, would show an abnormally large influence from off-season observations. Second, if the first three purchases in different quarters or different years happened to come from different institutions, there is no guarantee that they would refer to the same wool qualities. Finally, Hamilton did not report whether his prices were for washed wool, unwashed wool, or both; since at the Misericordia wool was purchased in both forms

\textsuperscript{13} Phillips and Phillips (1997, p. 63).
(with washed wool purchases concentrated late in the year), it is quite likely that Hamilton’s prices are contaminated by some washed wool quotes. Unfortunately, neither Hamilton’s published series nor his worksheets provide enough information to reconstruct his series from original archival documents.\footnote{Hamilton’s worksheets are housed at the Duke University Rare Book, Manuscript and Special Collections Library. Their series is not complete, and the archival sources for individual goods are not noted.}

The squares in Figure 1 represent the Misericordia prices, while the triangles are Hamilton’s series; the latter is clearly more volatile, quite possibly as a consequence of the problems discussed above. Since Hamilton’s data start in 1601 the two sources overlap for just two data points, making it impossible to check the consistency of the spliced series. While the levels at the splicing point are remarkably similar, the results must nonetheless be used with a measure of caution.

Assessing the evolution of the price of any good in an age of inflation requires choosing a deflator carefully. Since Hamilton's pioneering effort, the Spanish historical economics literature has produced an abundance of price indices for several Spanish regions. For the purposes of this exercise, I will rely on the indices presented in Drelichman (2005). These indices have three key advantages: 1) they are calculated separately for traded and non-traded goods; 2) the baskets used to compute them are entirely derived from primary sources; 3) they are available for four different Spanish regions.\footnote{For a thorough discussion on the construction of these price indices, as well as for a survey of other series, see Drelichman (2005). The indices can be downloaded from http://mauricio.econ.ubc.ca/data/Price_Indexes_Moctezuma.xls}

Iberian good markets were not integrated, and hence the region for which the price index is calculated matters. The availability of price data also varies widely from region to
region, resulting in discrepancies in the quality of the indices. These factors conspire to create a difficult choice. The source of the wool prices was in Seville, and would hence suggest the use of Andalusian prices. The Andalusian price series, however, is also the one that exhibits the largest proportion of missing data, and hence the greatest volatility. Excess volatility should introduce attenuation bias, and therefore work against finding significant results. Because this biases the results against my argument, I shall use Andalusian prices. In Appendix C, I repeat the entire econometric analysis using an Old Castilian deflator for robustness. The results, as expected, improve slightly.

The second choice is whether to use an index of traded goods, non-traded goods, or a consumer price index. The relevant variable for this study is the competitiveness of Mesta wool relative to the goods that represented the next best use of the land on which Mesta sheep grazed. The alternative uses of the Mesta's pastures were growing crops or raising cattle for meat. Crops were mostly traded goods, while meat was non-traded.\textsuperscript{16} Marin Barriguete's (1987) account of the violation of Mesta privileges suggests that the overwhelming reason why Mesta flocks were challenged and evicted from pastures was to grow crops. The granting of licenses to till, discussed below, suggests as much. This is consistent with the general trend of the onsetting Castilian economic crisis, as in times of difficulty people substitute the consumption of expensive animal protein for cheaper plant calories.\textsuperscript{17} I hence use a traded goods price index as a deflator. For robustness

\textsuperscript{16} In the international trade literature, a traded good is one that has the potential to be traded across international borders given the current state of technology. Essentially what matters to determine tradability is that the price of a good responds to developments in international markets. In early modern Spain most crops were, by this definition, traded goods. See Drelichman (2005) for a full discussion on this issue.

\textsuperscript{17} An additional reason to convert acreage to farmland rather than cattle grazing is that the downsizing of Mesta flocks generated a steady supply of mutton in the last decades of the sixteenth century, keeping its prices low (Ringrose 1983, p. 265). Because mutton is a non-traded good, this does not affect the use of the wool prices deflated by a traded goods index as a measure of the comparative advantage of wool. Selling
purposes, Appendix C repeats the econometric analysis using a non-traded goods index with little variation in the results. Since a consumer price index will by construction be a weighted average of the traded and non-traded goods indices, I do not use one in the sensitivity analysis.

Figure 1: Wool prices, 1558 – 1650, in constant 1601-1610 maravedíes.

Sources: Table 1; Hamilton (1934, appendix V); Drelichman (2005).

Figure 1 presents the spliced series deflated by an index of Andalusian traded goods prices, together with a 5-year moving average trend. As discussed above, the choice of deflator allows the interpretations of the series as a measure of the comparative advantage mutton does not seem to have been profitable in itself for Mesta members. Philips and Philips (1997, p. 121) argue that, in normal economic times, sheep were culled only when they became too old to graze properly and hence produce a good quality fleece. In other words, the complementarity in production between wool and mutton would not have affected decisions on the size of flocks or use of pasture land at the margin.
of wool relative to other traded products. Deflating the series by an index of traded goods also isolates it from the “Dutch Disease” effect Spain was experiencing as a consequence of the remittances of American treasure; since Dutch Disease implies a rise in the relative price of non-traded goods, not controlling for it would result in a larger observed fall of the price of traded goods such as wool, biasing the results downwards (and in favor of my argument).

The Misericordia prices bring new meaning to the decline in the fine wool industry in the late sixteenth century, so far described only through the exports of the northern ports (Casado Alonso, 1994; Grafe, 2001; Bilbao, 2003), the records of maritime insurers (Phillips and Phillips, 1997) or animal head counts for tax purposes (Le Flem, 1972). Wool prices fell by roughly 50% in real terms between 1565 and 1590, and, if Hamilton’s data are accurate, did not recover until the 1620s.

5. The enforcement of Mesta privileges

The eighteenth century liberal indictment of the Mesta, and later the traditional historiography, pointed to the enormous body of privileges and their periodic confirmation as evidence of the association’s influence over the monarchy and its negative effects on the Castilian economy. In pre-modern times, however, written laws and privileges often did not reflect the realities on the ground (Greif, 2006; Drelichman, 2007). Quite to the contrary, as Marín Barriguete (1987) argues, the Mesta’s efforts to

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18 The concept of comparative advantage used in this paper is a relative one. While in a two-sector model one good will have a comparative advantage and the other will not, in a multi-sector trade model there will be an ordering of goods depending on their equivalent cost of production relative to import varieties. Therefore, the expression “a decline in the comparative advantage of wool relative to agricultural products” does not necessary mean that wool became imported and agricultural products exported. It rather implies that, because the relative cost advantage of wool with respect to other products has declined, optimality requires that some land allocated to pasture be shifted to agriculture.

19 A discussion of Dutch Disease in sixteenth-century Spain can be found in Drelichman (2005).
have its privileges confirmed and reconfirmed by successive monarchs suggest that they were widely ignored. In this section I present three different measures of the enforcement of the privileges of the Mesta. The first two series, licenses to till granted by the Crown and the rulings of itinerant judges, are from Marín Barriguete’s (1987) doctoral dissertation, which surveyed the holdings of the Mesta’s own archive. The third one, a series of appellate lawsuits against the Mesta in the Royal Chancery Court, is constructed directly from the primary source.

*Licenses to till*

Towns or individual landowners could apply to the Crown for licenses to till pastures that would have normally been reserved for Mesta flocks. Such applications were normally made on the grounds that the town needed the income to defray specific expenses, most often royal taxes. Marín Barriguete (1987, pp. 1440-1484) shows that licensing took place all over Castile. This is consistent with the anecdotal evidence provided by Phillips and Phillips (1997, p. 62). The licenses were granted for limited periods, normally five or six years, although Marín Barriguete (1987, p. 476) argues that licensees rarely devolved the land to pasture once the license expired. While we do not have any hard information about the size of parcels affected by the licenses, the fact that most applicants were towns and ecclesiastical institutions supports the speculation that the newly tilled fields would have covered medium to large extensions.

Direct revenue from granting licenses was likely not a factor in the Crown's decision making. The literature and the archival record do not mention the cost of licenses, and no

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20 The archive of the Mesta is now housed at the Archivo Histórico Nacional in Madrid. Marín Barriguete’s work was the first thorough survey of its holdings, and has served as the basis of the subsequent catalogue.
revenue from license granting shows up in the Crown's fiscal accounts. This suggests that
the future revenue streams from property rights allocation, together with political
considerations, were more important than an immediate financial gain from privilege
sales. In pondering whether to grant tillage licenses, the Crown was faced with a very
direct trade-off. If the towns’ pleas of poverty were founded, refusing their applications
would likely have compromised the royal revenue streams derived from them. If local
food shortages were behind the requests for licenses, denying them would have sparked
social unrest. Granting the applications, on the other hand, would have eroded the
privileges of the Mesta and reduced the revenues derived from it. The mere fact that
licenses were granted demonstrates once again that the Mesta’s privileges were not all
encompassing. Their erosion at the hands of arable interests shows that the Crown
prioritized other issues, be it sources of revenue or social peace, over taxes paid by
migrating flocks. Figure 2 plots the yearly number of licenses granted to towns or
individual plot owners to till pastures on which the Mesta held grazing rights between
1550 and 1600; unfortunately, no data are available for the seventeenth century.
The series closely reflects the evolution of the fiscal pressure exerted by the Crown over Castilian municipalities. In 1576 the Crown obtained a large increase in sales taxes, the *alcabalas*, which were apportioned among towns; starting in that very year, licenses jumped from their long run average of about five per year to almost thirty per year. The next fiscal shock came in the wake of the destruction of the Invincible Armada in 1588 and the subsequent threat of British invasion. The year 1591 saw the introduction of the *millones* excises, which fell squarely on Castilian municipalities. The number of licenses skyrocketed to 134, and, while retreating from their peak, stayed high for the next three years. Marín Barriguete (1987, p. 482) argues that the increase in their numbers was a clear sign of the withdrawal of the Crown’s support for the Mesta in favor of the cities.
The evidence presented in this section also shows that their variation was linked to fiscal events, rising each time the tax burden on cities increased.

*The rulings of itinerant judges as a measure of the Mesta’s response*

The solution to the hold up problems faced by the Mesta in the Middle Ages included the creation of a new category of itinerant royal judges, the *jueces entregadores*, who, starting in the late thirteenth century, were given exclusive jurisdiction over any civil complaint related to the activities of the Mesta and its members. Local justices and their bias towards arable farming interests were hence removed from the adjudication of disputes and, in principle, both shepherds and farmers were provided with a fair mechanism to resolve their complaints. This special jurisdiction grew more complicated over time, as the Crown sold the office of chief itinerant judge (*alcalde mayor entregador*) to a noble family and with it the power to appoint itinerant judges to hear certain types of disputes, such as examining the boundaries of sheepwalks; the Mesta itself eventually bought the office in 1568. While the Crown continued to appoint itinerant judges with broad competencies over most disputes, the incentives of *entregadores*, who were entitled to keep a portion of the fines they levied, were to always rule against farmers and towns. Their mode of operation consisted in verifying the complaints of Mesta members and levying the appropriate fines. I shall therefore use the rulings of *entregadores* as a measure of the vigor with which the Mesta tried to enforce its own privileges.  

Figure 3 presents their evolution between 1520 and 1650. The data are reported in five-year intervals in the original source.

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21 The standard account of the origins and evolution of the *entregadores* remains Klein (1920), pp. 67-85. Marín Barriguete (1987) surveys the lawsuits heard by *entregadores* in the sixteenth and seventeenth centuries in minute detail.
Figure 3: Rulings of alcaldes entregadores per five year period, 1520 – 1650

The activity of entregadores experienced a marked increase between 1590 and 1610, just as wool prices were reaching their nadir. The period also coincides with the spike in royal licenses to till pastures granted in the wake of the millones, and with the downturn in Castilian agricultural production. The Mesta clearly refused to go down without a fight. The tools at its disposal, however, were to prove inadequate. Because the fines that entregadores could levy for different types of offences were fixed by a royal decree that had not been updated since 1554, their value was rapidly eroding in the inflationary context of the late sixteenth century.\textsuperscript{22} Since the frequency of itinerant judge visits was low, many towns and landowners found it advantageous to just pay the fines and keep infringing the privileges until the next visit. Farmers essentially considered the fines as

\textsuperscript{22} Based on the price indices from Drellichman (2005), in the second half of the sixteenth century the price index rose by 132% in Old Castile and by 103% in Andalusia.
part of the cost of doing business. The Mesta continued to issue rulings not because of the small monetary benefit it derived from them, but as an attempt to reverse the erosion in its property rights. Because of its limited resources, the Mesta chose to concentrate its enforcement efforts on specific areas and offences, issuing repeated rulings to try to subdue landowners and farmers into compliance (Phillips and Phillips 1997, p. 58). The rulings of entregadores, however, could be appealed to the Royal Chancery Courts, key institutions in the design and implementation of royal policy.

**Appellate lawsuits**

The two Royal Chancery Courts sat in Valladolid and Granada, and had jurisdiction over the Castilian territories north and south of the river Tagus respectively. Since they did not have direct financial or political interests in the outcome of the cases and their members could be appointed or dismissed at will by the king, the Chancery courts provide a good gauge for Royal support of Mesta privileges.

While in a contemporary legal mindset written law is usually considered authoritative, and a reversal of a lower court decision must be based on a reexamination of the facts or on a different interpretation of the law, Early Modern legal practice in Castile took a much more flexible approach. Judges did not have to justify their rulings in writing, and wide departures from statutory law were not uncommon if the court felt that justice so required it. Consider the following excerpts from a sentence in a case involving the Mesta and the town of Gormaz in 1591:

> We rule that Diego Montero, chief judge entregador of the Council of the Mesta, who heard this lawsuit [...] in which he sentenced the town of

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Gormaz to observe the privileges of the said council of the Mesta [...] judged and pronounced fairly, and hence we must confirm and do confirm his judgment.

We further revoke the parts of the said sentence in which he sentenced the town of Gormaz not to enclose the fields, meadows and pastures it used to enclose, and hereby hold it nullified. And we further serve justice by ordering that the sheep of the Mesta be barred from entry into the fields that the said town of Gormaz has enclosed, and that the brothers of the Mesta be prevented from entering in them, and that if either them or their sheep should enter, they be held liable and pay the damage caused.

And we further order any and all monies that may have been taken from the said town of Gormaz as a consequence of the said sentence be returned to the said town of Gormaz free and without any cost.

After paying lip service to Mesta privileges in the first paragraph, the Chancery Court proceeded to reverse the ruling of the entregador, in complete contradiction of the rights of passage and pasturage protected in those privileges. As customary, no specific grounds were given for the ruling other than “serving justice.”

Using litigation records requires first assessing the holdings of the relevant archives to determine how complete they are and, in the case of significant missing data, how representative the remaining material might be. The records of the Granada court were not centralized in an archive until three decades after its closure in the 1830s, resulting in serious losses of material; the holdings of the present-day archive are furthermore poorly described, making it impossible to reconstruct a global view of Mesta-related litigation in southern Castile. The Archive of the Royal Chancery Court of Valladolid, in contrast, was created in 1600 and has operated continuously since, preserving the files of most of the cases heard there. The records of two of its eight civil chambers are fully catalogued and described; since cases reaching the court on appeal were randomly assigned to the different civil chambers, the described files constitute a clean 25% random sample of the
surviving appellate cases.\(^{24}\) While there is no way to ascertain how many files have been lost from the civil chambers, or whether the process was random, I have been able to establish that losses of nobility files at the Archive of the Royal Chancery Court of Valladolid did not exceed 10% of the cases, and that they followed a random pattern; since nobility and civil cases are physically identical, there is no reason to assume that losses of civil files would have followed a different process.\(^{25}\)

The impossibility of relying on the Granada files raises a concern, since most of the southern pastures fell within its jurisdiction. However, the jurisdiction of the Valladolid Chancery Court encompassed all the northern bases of the transhumant flocks, all of the mountain passes between Old and New Castile, and the parts of the pasture-rich region of Extremadura north of the river Tagus. This geographical coverage provides an insight into all the activities of the Mesta flocks.

Figure 4 presents the number of lawsuits to which the Mesta or one of its members were a party in the two described civil chambers during the life of the Royal Chancery Court (a straightforward estimate for all eight chambers can be obtained by multiplying all values by four).

\(^{24}\) The standard reference on the history of the Archive of the Royal Chancery Court of Valladolid is Martín Postigo (1979). The random procedure to allocate cases to the different civil chambers is described in Aulestia (1667), itself an operational manual of the court. The catalogued escribanías (secretariats), which bore a one to one correspondence to the civil chambers, are those known by the names of Fernando Alonso and Pérez Alonso, the last secretaries to hold the respective offices.

\(^{25}\) The cases heard by the nobility chamber, the Sala de Hijosdalgo, are the primary attraction of the Archive today, and hence their history is much better documented than that of the civil cases. The procedure I used to determine that the files missing from the Sala de Hijosdalgo followed essentially a random pattern is described in Drellichman (2007).
The bulk of legal activity was concentrated in the decades between 1570 and 1620, with very few cases reaching the Chancery Court in other periods. I studied in detail a random sample of 10% of the described cases; all of them had been originally decided in favor of the Mesta by the entregadores, and hence were being appealed by towns or landowners. On appeal, the Mesta won slightly over 25% of the cases and lost the rest, regardless of historical period.

Litigating in Royal Chancery Court was expensive; a landowner or a town appealing the ruling of an entregador would have had to retain attorneys in Valladolid or Granada, pay

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26 The random sample was drawn from the entire population of cases without stratifying by year. Since many years had less than 10 cases, stratifying by year would have resulted in many of them having no chance of being represented in the sample. The online data file details the number of cases drawn from each time period.
an always-increasing number of court and secretarial fees, and be prepared to endure stalling tactics that could sometimes drag on for years.\textsuperscript{27} Landowners and towns would not have appealed the decisions of \textit{entregadores} if they had not faced substantial odds of winning.\textsuperscript{28} As royal courts became more favorable to municipal and landed interests the monetary stakes necessary to take a case to Valladolid or Granada would have gone down, and an increasing number of \textit{entregador} decisions would have been appealed. The increase in litigation shown in Figure 4 coupled with a constant ex-post win rate is consistent what would be expected following an increase in the friendliness of the courts towards local interests. On cases of equivalent merits, courts would have been more inclined to rule in favor of farmers and towns, thus increasing their win rates; however, this increased friendliness would have attracted more appellants whose cases had lesser merits and would have been more likely to be rejected, thus reducing win rates. Appendix B formally demonstrates how, under very general assumptions, the two effects can be strong enough to offset each other, yielding an ambiguous impact on the overall ex-post win rate.

A potential obstacle in considering the series of appellate lawsuits as an independent measure of enforcement is that they could be merely a reflection of \textit{entregador} rulings. This concern is easily evaluated by plotting the two series on the same chart, which I do in Figure 5 after converting the appellate lawsuit data to match the time scale of \textit{entregador} rulings.

\textsuperscript{27} A thorough account of Castilian civil litigation can be found in Kagan (1981).

\textsuperscript{28} This argument is also made in Phillips and Phillips (1997, p. 58).
If the only reason for the increase in appellate lawsuits were a higher number of entregador rulings, one would expect the former series to trail the latter. Figure 5 shows that exactly the opposite phenomenon was taking place; appellate lawsuits were leading, rather than trailing, entregador rulings. More formally, Table 2 regresses appellate lawsuits on current and lagged values of entregador rulings, as well as on a five year trailing moving average. None of the coefficients are significant at the 10% level, indicating that rulings have no predictive power for appellate lawsuits.
Table 2: Regression models of *entregador* rulings on appellate lawsuits

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<th>Model of appellate lawsuits</th>
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<tbody>
<tr>
<td>rulings</td>
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<td>0.16</td>
</tr>
<tr>
<td></td>
<td>(0.89)</td>
<td>(0.90)</td>
</tr>
<tr>
<td>L1_rulings</td>
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<td>0.05</td>
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<tr>
<td></td>
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<td>(0.14)</td>
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<tr>
<td>L2_rulings</td>
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<td>0.24</td>
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<tr>
<td></td>
<td>(0.54)</td>
<td>(0.54)</td>
</tr>
<tr>
<td>L3_rulings</td>
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<td>-0.81</td>
</tr>
<tr>
<td></td>
<td>(-1.44)</td>
<td>(-1.44)</td>
</tr>
<tr>
<td>L4_rulings</td>
<td>0.32</td>
<td>0.32</td>
</tr>
<tr>
<td></td>
<td>(0.97)</td>
<td>(0.97)</td>
</tr>
<tr>
<td>5 year trailing</td>
<td>-0.0001</td>
<td>-0.0001</td>
</tr>
<tr>
<td>moving average of rulings</td>
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<td>(-0.01)</td>
</tr>
<tr>
<td>constant</td>
<td>3.19</td>
<td>3.59</td>
</tr>
<tr>
<td></td>
<td>(3.72)</td>
<td>(4.32)</td>
</tr>
<tr>
<td>Prob &gt; F</td>
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<td>0.99</td>
</tr>
<tr>
<td>R^2</td>
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<tr>
<td>N</td>
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</tr>
</tbody>
</table>

OLS regressions with Newey-West standard errors; t-statistics in parenthesis. LX represents a variable lagged X years.

Figure 5 seems to suggest that appellate lawsuits might predict rulings. A linear regression of rulings on current and lagged values of appellate lawsuits shows strong evidence of serial correlation, with a Durbin-Watson statistic of 0.43, requiring a correction using the Cochrane-Orcutt method. Both the regression with four lags and the one with the five year moving average fail to produce maximum likelihood convergence; a regression with three lags, however, succeeds in eliminating serial correlation. The result is reported in Table 3.
Only the first lag of appellate lawsuits seems to come close to any standard level of significance, indicating that appellate lawsuits may hold at best some weak predictive power in explaining *entregador* rulings. The overall explanatory power of the regression remains very low, suggesting that appellate lawsuits were not a major factor in explaining rulings. This seems consistent with Phillips and Phillips’ interpretation that *entregador* rulings, while still displaying a measure of reaction to royal policy, were strategically concentrated in those areas in which they could have maximum impact.\textsuperscript{29}

6. Political responses to market conditions

As shown in the previous section, lawsuits in the Royal Chancery Courts and licenses to till pasture lands can be considered measures of the enforcement of the privileges granted

\textsuperscript{29} For example, between 1580 and 1600, the Mesta concentrated on fighting encroachment on its winter pastures while giving up altogether on other infringements. See Phillips and Phillips (1997, p. 58).
to the Mesta. While these two instruments ultimately emanated from the Royal administrative apparatus, the separation between the court system and the fiscal organs of the Crown was sufficiently large to warrant treating them as independent measures in principle. It remains to explore what determined that level of enforcement. I do not dispute the claim found in the traditional literature that fiscal considerations were paramount in determining the allocation of property rights. Rather, I argue that this allocation did not need to be myopic to market conditions or political realities on the ground.

I discuss two complementary reasons behind the shift in the enforcement of Mesta privileges. The first one is fiscal. A sovereign wanting to maximize revenue might well have been best served by favoring those sectors with the capability of generating the largest profits, and then taxing them as necessary. As external demand for Mesta wool plummeted starting in the late 1560s, so did the protections the political system was willing to accord transhumant shepherds. The beneficiaries were Castilian farmers and towns, the relative price of whose products had increased vis-à-vis wool, and who had always provided the bulk of the fiscal resources that financed the expansion of the Spanish empire in the sixteenth and seventeenth centuries.\textsuperscript{30}

A second force behind the shift in royal policy was almost certainly the changing agricultural situation of the late sixteenth century. Evidence from regional tithe series shows that Castilian agricultural output reached a peak in the 1580s.\textsuperscript{31} After that, both


\textsuperscript{31} See, for example, Díez Sanz (1995, p. 307), for Soria; García Sanz (1994, pp. 18-19) for Toledo and Segovia; García Sanz (1977, pp. 94-130) for an extended analysis of Segovia; and Marcos Martín (2000, pp. 350-356) for a general treatment.
output and productivity declined, and agricultural techniques gradually shifted from intensive to extensive farming. In the last years of the century, a series of poor harvests resulted in local food shortages. The drop in productivity likely resulted in demands for additional land to farm. Faced with the prospect of civilian unrest, the Crown would not have thought twice before curtailing shepherding privileges.

The available tithe series do not allow for the construction of a yearly arable output indicator for all of Castile.\textsuperscript{32} Without such a variable, it is not possible to distinguish econometrically between the two possible motives behind the variation in privilege enforcement. The timing of the two surges in licenses to till around the major tax increases of 1575 and 1591 would seem to point to the fiscal motive as the main reason. Licenses, however, are only one dimension of privilege enforcement, and the year of 1591 also happens to coincide with the steepest phase of the downturn in Castilian agriculture. Most likely both factors, fiscal pressures and social peace, had a role in shaping the policies of the Crown. Since both of them worked in complementary ways, it is not critical to identify their precise contribution. What matters to show that the mechanism at work can be construed as a second-best institutional arrangement is that public policy was responsive to economic changes.

\textit{Data and identification}

The econometric analysis in Table 4 provides evidence in support of the second-best argument. Its two sets of regressions use appellate lawsuits and licenses to till as outcome

\footnote{The tithes assessed on production volumes were local taxes collected by ecclesiastical institutions. Most of them were farmed out to "diezmeros" in exchange for fixed payments, thus eliminating any useful variation in the series (Casey 1999, pp. 51-52). Other series are only reported at decadal intervals (e.g. García Sanz, 1977). While we have a number of series that allow to reconstruct the assessed quantities (e.g. Díez Sanz, 1995), their places of origin cannot be considered representative of all of Castile. Finally, most tithe series begin between 1582 and 1585, overlapping for too short a period with the rest of my data.}
variables. These measures of privilege enforcement are regressed on prices of fine wool deflated by an index of traded goods prices. Since crops weight heavily on the index, and since wool prices are not included in it, the resulting price series is a good indicator of the comparative advantage of the Mesta’s output.

The number of entregador rulings is used as a measure of the vigor with which the Mesta tried to defend its privileges. Because the number of rulings is reported at five-year intervals by Marín Barriguete, I constructed a yearly estimate by interpolating the quinquennial figures using a linear trend.33

Two additional controls, the volume of wool exports through the northern ports and the total expenditures of the Crown, are included for robustness. Most of Castile’s wool production was exported; while the kingdom was a large enough player not to be a price-taker in the market, it is well established that the decline in prices in the second half of the sixteenth century responded to external factors, chief among them the war in the Netherlands and the emergence of the Nouvelles Draperies, technologically engineered to take advantage of British wool.34 It is hence quite unlikely that changes in the institutional environment would have been the main reason behind the worsening conditions in the fine wool industry; if a causal link existed, it must have operated in the inverse direction. The volume of exports can thus be considered a reasonably exogenous variable capturing the quantity dimension of the fine wool market.

33 My interpolation procedure smoothes out identifying variation, and is akin to introducing a broken time trend informed by the available observations. This will introduce attenuation bias, potentially reducing the significance of the estimates. The coefficients on the export variable are indeed insignificant in my regressions. The likelihood of attenuation bias should be kept in mind when interpreting them.

34 Munro (2005) provides an excellent treatment of the evolution of the Spanish wools, their use by the Dutch textile industry, and the negative impact of the emergence of the Nouvelles Draperies on Castile’s exports.
Data on wool exports are from Casado Alonso (1994), expressed in thousands of sacks of wool. Export data are only available until 1585, with two missing values in 1574 and 1584 imputed through linear interpolation. A concern arises because, while Casado Alonso's data only cover shipments through the northern ports, data on customs revenue suggest that exports through the Mediterranean ports were at least of a similar magnitude. Unfortunately, a number of problems with the customs data render them unusable as a proxy for quantities exported. First, they are only available between 1558 and 1582, already a short period. Second, between 1567 and 1572, the southern customs were farmed out in exchange for fixed payments, effectively eliminating any variation in the series. Finally, differential tax rates by destination were introduced in 1566, making it impossible to convert revenues to quantities without knowing the destination of exports.

Despite the unsuitability of tax revenue data to generate yearly export estimates for the southern ports, the total amount collected should at least be loosely correlated with the order of magnitude of the quantities exported. Figure 6 shows the revenue from wool export duties generated at the southern ports, deflated by an index of Andalusian traded good prices.

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35 The exact quantity of wool in a sack is uncertain. Grafe (2001, fn. 46) provides an excellent discussion on the subject, pointing to a best estimate of about 80 kilograms (slightly over 7 arrobas) per sack.

36 The following analysis relies on revenue data for the Nuevo Derecho de las Lanas from Ulloa (1977, ch. 9). This tax was introduced in 1558 to extract more revenue from wool exports, which had until then only been taxed as the same rate as other commodities through the Diezmos de la Mar.

37 Exports to the Low Countries paid 1.5 ducat per sack, while exports to other destinations paid 4 ducats per sack. However, in the southern ports exports to France were assessed only 2 ducats (Ulloa, 1977).
Apart from the discrete jump of the mid-1560s, caused by a change in tax rates, and one peak in 1578, the series is fairly stable. It is therefore likely that quantities exported through the southern ports hovered within the same order of magnitude during this period. If that were the case, then most of the variation in total exports would originate from the northern port series, which suffered a dramatic decline. For the purposes of econometric identification, which relies on variation rather than on levels, it is then still appropriate to use the northern exports series. Since the export data overlap with price data for just 28 years, the second and third regressions in each set drop the exports variable to allow for a longer period of analysis.
The identifying source of variation in the analysis is the exogenous decline in demand for Mesta wool. This implies that the export and price variables will be positively correlated, roughly following the supply curve. As long as they are not also correlated with the error term, this positive correlation between the regressors will not affect the consistency of OLS. In the absence of multicollinearity, and with heteroskedasticity properly controlled, the estimates should be efficient as well.

The expenditures of the Crown are used to introduce the fiscal dimension. While revenue would perhaps be a more appropriate variable, it is hard to make the argument that Crown revenue was completely independent of changes in the property rights environment. Expenditure, on the other hand, was largely exogenous. During the reign of Philip II, expenditures were chiefly determined by the military situation on the battlefield. With the exception of a few years in which he was excluded from capital markets by the lenders, the king usually enjoyed plentiful access to credit. This allowed him to react to expenditure demands without worrying about his short-run sources of income (Drelichman and Voth, 2007). Although in the long run fiscal constraints came to bind in the form of bankruptcy and lending shortages, the yearly frequency used here is unlikely to suffer from endogeneity between expenditure and privilege enforcement. In any case, the coefficients are essentially unchanged if revenue is used instead of expenditure. The fiscal data, expressed in millions of ducats deflated by a Castilian price index, is from Drelichman and Voth (2007). Revenue and expenditure data are only available for the period 1566-1596. Appendix A reproduces all the data used in the regression analysis, while Appendix C compares the results in table 4 with those obtained using three alternative deflators.
Table 4: Determinants of privilege enforcement.

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<th>Dependent variable is appellate lawsuits</th>
<th>Dependent variable is licenses to till</th>
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</thead>
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<td></td>
<td>1558-1585</td>
<td>1558-1600</td>
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<tr>
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</table>

For data sources see the text and Appendix A. OLS regressions with Newey-West standard errors. Figures in parenthesis are t-statistics. Stars denote significance levels as follows: * = 10%, **=5%, ***=1%.

**Interpretation**

The regressions in Table 4 show that prices of fine wool were negatively related to the level of enforcement of Mesta privileges. The effects are always significant at the 1% level, and their magnitudes are large. An increase of 100 constant maravedíes in the price of an arroba of unwashed wool (equivalent to 25% of the average price for the 1558-1600 period) was associated with a fall of between 5.6 and 8.4 licenses per year depending on the model. This is equivalent to between 30% and 45% of the average number of licenses. Similarly, an increase of 100 constant maravedíes in the price of wool was associated with a fall of between 1 and 1.5 appellate lawsuits per year – once again
between 30% and 45% of the average number of lawsuits in the sample during the period.\textsuperscript{38}

Exports are also negatively related to privilege enforcement. While the significance level is strong, the magnitude of the effect is not very large. An increase in 1,000 sacks of wool exported, equivalent to 10% of average yearly exports, was associated with a drop of only 0.12 lawsuits, or 0.36 licenses. These movements are quite small, indicating that most of the political response to market conditions is captured through the price effect. This result is convenient, as lengthening the period of analysis beyond 1585 requires dropping the exports variable due to its limited temporal coverage. The small magnitude of its coefficient ensures that the omitted variable bias from doing so will not be large.

The number of \textit{entregador} rulings is never significant when appellate lawsuits is the dependent variable, and it is only significant at the 10% level when licenses are used. Even then, it has the wrong sign, as increases in \textit{entregador} rulings are associated with more licenses to till. If the Mesta was hoping to reduce the encroachment of agriculture on its rights of pasturage by issuing more rulings, its actions seem to have been inconsequential at best.\textsuperscript{39} Alternatively, the positive sign might indicate that rulings had some relationship to the enforcement variables. The low statistical significance of the coefficient on rulings, as well as the regression in Table 3, however, lend little support to this interpretation. Finally the inclusion of expenditure or revenue (not reported) does not

\textsuperscript{38} On a technical note, it must be kept in mind that the lawsuits data comes from a 25% random sample of the population. While the percentage effects remain unaltered by this, the results must be multiplied by four to obtain the estimated effect on total lawsuits.

\textsuperscript{39} In the regressions reported in Table 4 I used the contemporaneous number of \textit{entregador} rulings as an independent variable. Replacing it with the first lag of rulings does not change the coefficients on any of the variables and, in most cases, reduces the statistical significance of rulings even further. However, since this variable was obtained using an interpolation procedure, the likelihood of attenuation bias must be kept in mind.
yield statistically significant coefficients on these variables, but it does increase the magnitude and significance of the coefficients on the price of wool. This suggests that property rights were not altered as a direct response to fiscal motives. Rather, the restriction of the Mesta’s privileges through licenses and lawsuits followed only the change in the comparative advantage of its main output relative to other tradable goods.

Wool prices, therefore, hold the highest explanatory power in accounting for the variation in the enforcement of Mesta privileges. Prices inversely reflect the opportunity cost of keeping land as pasture rather than in arable production. As external demand for Mesta wool (and hence its prices) fell, towns found it optimal to switch land from pasture to arable; and as agriculture started to favor more extensive farming, the opportunity cost of pasture rose as well. In a first best scenario, the reallocation of land would have been achieved through the market, but the several forms of rent control in favor of the Mesta dampened the signals conveyed by prices. Had its privileges been perfectly enforced, the Mesta could have always re-rented the same plots at the same price regardless of market pressures. If shepherds gave up their rent controlled plots and the price of wool went up again, they would have faced the prospect of having to bid for the plots again in the future, at higher rents. Allowing land to be reallocated required either revoking those privileges or loosening their enforcement. Implementing a best-practice scenario would have required eliminating a large number of centuries-old privileges, an unlikely move in a Medieval legal framework. More importantly, in light of the hold-up problems that confronted transhumance, removing the privileges altogether was not desirable either.

Varying the levels of legal enforcement is clearly not a first-best practice, as it introduces uncertainty and is subject to arbitrary behavior. The data presented here, however,
suggest that it worked reasonably well as a second best institutional arrangement, aligning the allocation of resources with the evolution of their social cost.

7. Concluding remarks

Merino wool truly was, in the words of Carla and William Phillips, Spain’s golden fleece. The Mesta emerged in the late Middle Ages as perhaps the first national organization in the kingdom of Castile, which was then still battling for political and military supremacy in the peninsula. Its internal regulation and effective bargaining with the Crown successfully solved the hold-up problems faced by long-distance transhumance. The monarchs secured a source of revenue and a presence in newly conquered lands, while Castilian shepherds and flock owners were able to realize their comparative advantage and supply the textile industry of Western Europe with one of its finest raw materials.

The careful study of archival sources that fed the recent historiography on the Mesta has largely put to rest the image of a rent-seeking organization indulged with anachronistic privileges by a revenue-hungry Crown. The indictment that would have held the Mesta almost single-handedly responsible for the Castilian stagnation of the seventeenth century and beyond has followed a similar fate. The reconstructions of Marín Barriguete and García Sanz, among others, made it clear that the Mesta’s privileges were only selectively enforced by the Royal justice system. It nonetheless remained unclear which factors were behind the varying level of enforcement and, by extension, the relationship between shepherding privileges and economic efficiency in Early Modern Castile.

This paper has argued that the privileges of the Mesta are best understood as a case of second-best institutional arrangements. In the absence of an efficient market for land, broad rights of passage and pasturage coupled with selective enforcement offered the
next best alternative to allow resources to flow towards their most efficient uses. The empirical analysis shows that the level of enforcement varied inversely with the price of wool, itself determined by largely exogenous factors in international markets. The relationship survives controlling for the Mesta’s reaction through entregador rulings, which proved ineffective. Most tellingly, the inclusion of fiscal variables shows no relationship with the level of privilege enforcement once the effect of market conditions is accounted for. It was the variation in the efficiency of each sector alone that ultimately determined the change in the amount of resources available to transhumant shepherds relative to what farmers and towns could keep for themselves.\textsuperscript{40} Since property rights were being modified in a way consistent with the evolution of relative comparative advantage, it is hard to maintain the view that the supposedly asphyxiating privileges were damaging the Castilian economy.\textsuperscript{41}

The nature and mode of operation of the royal bureaucracy places limits on the depth of the analysis. Courts did not justify their rulings and the text of licenses did not transcend the formulaic. These documents therefore contain no information on the mechanisms behind the changes in property rights. It is possible that the shift in comparative advantage allowed the newly favored sectors to lobby the Crown and the courts more effectively. The Crown itself, searching for additional revenue, might have decided to favor the sectors with a stronger productive capability. The agricultural downturn and

\textsuperscript{40} The regression framework is silent on the efficient level of resources allocated to each activity. It is possible that shepherding interests always had too many, or too few, resources.

\textsuperscript{41} There were two potential transmission channels. The Crown might have curtailed the Mesta’s privileges in a bid to extract more revenue from local towns (an interpretation supported by the timing of the spikes in the series of licenses to till), or it might have been pursuing social peace at a time of local food shortages. While the econometric specification cannot distinguish between them in the absence of further data, both of them are compatible with modifying property rights in favor of the sector that had increased its comparative advantage.
local food shortages of the late sixteenth century, on their part, would have certainly put additional pressure on the formulation of public policy. Fully understanding these micro-dynamics of property rights allocation will require more detailed documentation than the archives have offered so far.

This reinterpretation of the role of the Mesta is encompassed in a growing literature that has made strong inroads in unbundling the black box of institutions in Early Modern Europe. The particular application of the theory of the second best developed here, adapted from the policy literature, introduces a novel approach to the complex relationship between governing bodies and economic stakeholders in the context of market incompleteness. The combination of these two strands of work suggest a path for furthering our understanding of institutional evolution in the Early Modern period, as well as for informing current policy debates.

APPENDIX A: DATA

The following table lists the data used in the regressions presented in tables 3, 4 and 5. The complete dataset, including the source data for all figures, can be downloaded from http://mauricio.econ.ubc.ca/data/Mesta_data.xls

The units and sources are as follows:

Prices of wool (in 1601-1610 maravedíes per arroba): Archivo de la Diputación Provincial de Sevilla, *Misericordia*, Libros 108-114. The deflator is the Andalusian traded goods index from Drelichman (2005), using a 1601-1610 base. The values for 1567, 1570 and 1574 are interpolated linearly.

Exports (in thousands of sacks of wool): Casado Alonso (1994). The values for 1574 and 1584 are interpolated linearly.


Lawsuits (in number per year): Archivo de la Real Chancillería de Valladolid. Pleitos Civiles. Fernando Alonso, (F) and (O); Pleitos Civiles. Pérez Alonso, (F) and (O).

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Rulings (in number per year): Marin Barriguete (1987). Data are reported at five year intervals in the original source. I divided each observation by five, assigned the resulting value to the year in the middle of the corresponding period, and interpolated the remaining values linearly.

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APPENDIX B: THE EFFECT OF AN INCREASE IN THE FRIENDLINESS OF THE COURTS TOWARDS AGRICULTURAL INTERESTS

Let $f \in [0, 1]$ denote the friendliness of the Chancery Courts towards local interests, and let $q \in [0, 1]$ denote the intrinsic merits (quality) of a given case. If the case is brought to the court, its probability of being successful is $p = qf$.

Assume that all complaints against the Mesta cost the same to fight in court, and offer the same payoff to the winner. This is without loss of generality as long as the relationship between cost and payoff is strictly positive; to generalize the argument, just repeat the analysis for each category of cases, where a category is defined as a cost-benefit pair.

Denoting the cost of fighting a lawsuit by $C$ and the payoff to winning by $\Pi$, a risk-neutral landlord or village having a complaint against the Mesta will only appeal to the Royal Chancery Court if $p\Pi \geq C$.

For any given distribution of the quality of lawsuits, the percentage of potential litigants that actually choose to file an appeal is given by $\Pr(\Pi p \geq C) = \Pr(\Pi q f \geq C) = \Pr(q \geq C / \Pi f)$. Hence the percentage of cases actually appealed to the Royal Chancery Courts unambiguously increases with $f$, the friendliness of the courts towards local interests.

To obtain an expression for the effect of an increase in $f$ on ex-post win rates, it is necessary to assume a specific distribution for $q$, the quality of the cases. Distributions with a declining density (implying that there are relatively more ambiguous cases than clear cut ones) will generate offsetting effects on win rates.

As an illustration, assume that the merits of the cases are distributed according to the straight-line probability density function $f(q) = 2 - 2q$ for $q \in [0, 1]$ and $f(q) = 0$ otherwise. The win rate, $w$, is the expectation of $p$ conditional on appealing.

$$w = \mathbb{E}[p | q \geq \frac{c}{f\Pi}] = f\mathbb{E}[q | q \geq \frac{c}{f\Pi}]$$

The expectation of $x$ conditional on $x \geq k$ when $x$ is distributed $f(x) = 2 - 2x$ is given by

$$\mathbb{E}[x | x \geq k] = x^2 - \frac{2}{3}x^3 \bigg|_k = \frac{1}{3} - k^2 + \frac{2}{3}k^3$$

Hence

$$w = \frac{1}{3}f - \left[ \frac{C}{\Pi} \right]^2 \frac{1}{f} + \frac{2}{3} \left[ \frac{C}{\Pi} \right] \frac{1}{f^2}$$
The effect of an increase in court friendliness on win rates is

$$\frac{\partial w}{\partial f} = \frac{1}{3} + \left( \frac{C}{\Pi} \right)^2 \frac{1}{2f^2} - \frac{4}{3} \left( \frac{C}{\Pi} \right) \frac{1}{f^3}$$

The first two terms of the derivative are positive, while the third term is negative, capturing the offsetting effects of friendlier judges and weaker cases on the win rate. In general, if the benefit to cost ratio is not too large and if $f$ is small, the negative effects will prevail and win rates will decrease in response to an increase in the friendliness of the courts.

APPENDIX C: SENSITIVITY ANALYSIS

Table C1 reproduces the layout of Table 4 in the text. Each cell now reports four coefficients (t-statistics are omitted for clarity, but significance levels are reported). The four sets of coefficients correspond to regression results where the wool prices have been deflated by four different price indices. In each cell, the first value reproduces the one in Table 4, which reports results obtained using prices deflated by an index of Andalusian traded goods. The remaining three values correspond to results obtained using wool prices deflated by price indices of Andalusian non-traded goods, Old Castilian traded goods, and Old Castilian non-traded goods respectively. All indices are from Drelichman (2005) and can be downloaded from http://mauricio.econ.ubc.ca/data/Price_Indices_Moctezuma.xls

Only the coefficient on exports changes substantially in all three alternative regressions with respect to the original one. In column 1, the coefficient increases by as much as 60%, while in column 4 it almost doubles. Because the economic impact represented by the coefficient is very small, even a doubling of its magnitude does not imply a change in the interpretation of the results.

The only other change worthy of note is that of the coefficient on price in columns 3 and 6, which increases markedly in absolute value when the Andalusian non-traded goods index is used (third coefficient in each cell). If the Andalusian non-traded goods index were the correct deflator, the result would provide even stronger support for my argument.
### Table C1: Sensitivity of results to the choice of deflator.

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Data are from the same sources as in Table 4. OLS regressions with Newey-West standard errors. Stars denote significance levels as follows: * = 10%, **=5%, ***=1%. 
REFERENCES

*Primary sources*

España. Ministerio de Cultura. Archivo de la Real Chancillería de Valladolid. Valladolid, Spain. Sections: Pleitos Civiles. Fernando Alonso, (F) and (O); Pleitos Civiles. Pérez Alonso, (F) and (O).


*Secondary sources*


