

Preliminary – Do not quote

**All that Glitters:
Precious Metals, Rent Seeking and the Decline of Spain***

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Abstract

The windfall acquisition of precious metals from American mines and the military revolution of the Early Modern age allowed the Spanish monarchs to command large amounts of credit and pursue an expansive imperial policy unlike that of any other Early Modern nation; when the cost of the Empire increased and mineral rents fell, the Crown auctioned off privileges and tax exemptions to fund its military efforts. I document how the silver windfall was linked to the credit expansion and the undertaking of imperial policy. I then develop a model that shows how such a policy led Spain down a rent-seeking spiral, and accounts for the persistence of high rent seeking and slow growth even after the imperial policy was abandoned.

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1. Introduction

Ever since the fortunes of the Spanish empire started to change in the early seventeenth century, a large amount of scholarly attention focused on the reasons behind its downfall.¹ Excessive fiscal expansion and military commitments, adverse population shocks, and confident reliance on the mineral resources of the American colonies were always singled out as the driving factors behind the protracted fiscal and military debacle in which Spain found itself immersed in the seventeenth century. Much less clear, however, is why, after experiencing such a marked decline, Spain never caught up with the rest of the Western Europe, consistently ranking among the worst European economic performers, showing only the faintest signs of industrialization until the late nineteenth century and not closing the per-capita income gap with the industrial countries until the second half of the twentieth. I will argue that during the declining phase of the empire, the institutional fabric of Spain was deeply altered by the Crown's frantic search for additional revenue, as the state's willingness to bend and break property rights encouraged the most skilled human capital to engage in rent-seeking activities rather than in productive undertakings.² Although the Crown finally gave up on its military commitments and its fiscal situation improved, revoking the privileges and rents granted during the sixteenth and seventeenth centuries proved to be a much more difficult task. Even the life work of enlightened statesmen like Campomanes, who in the second half of the eighteenth century introduced sweeping agrarian reforms and relentlessly fought privileges and medieval remnants, were easily swept aside after his death by the reactionary king Ferdinand VII. As hard as she tried, Spain could not

¹ Elliott (1963), Lynch (1991) and Kamen (2003) are all broad works representing different stages of modern scholarship on Imperial Spain.

² A standard introduction to modern rent-seeking analysis is Buchanan and Tullock (1980). Murphy et al. (1991, 1993) dissect the relationship between skilled human capital, rent seeking and economic growth.

escape the iron grip of a rent-seeking structure. I examine the nature of that grip, exploring how it came to be and why it was so difficult to remove.

The proximate causes of the economic and political decline of Spain in the seventeenth century are reasonably well understood. The Habsburg bid for mastery, as Paul Kennedy called it, required the maintenance of several mercenary armies on an almost permanent war footing, an undertaking of enormous proportions and cost. Spain's limited military victories did not carry large financial benefits, if any, while its defeats and deadlocks became bottomless pits for its treasury.³ I develop a model that accounts for the Habsburg monarchs' decision of engaging in an imperial program and their persistence in it even in the face of dwindling resource rents and increasing military costs. By incorporating elements that reflect the institutional and fiscal structure of Early Modern Spain, the model is also able to account for long-term economic backwardness in the form of a high rent-seeking equilibrium, which persisted even after the imperial bid was over.

The military revolution of the sixteenth century allowed Charles V and Philip II to pursue their objectives of territorial expansion and dynastic policy virtually unchecked by their constituencies, while the windfall acquisition of mineral resources from American mines enabled the monarchs to command an unprecedented amount of credit and thus fund their imperial adventures.⁴ It is well documented that Spaniards counted on much larger precious metals flows than those that eventually materialized, a shortfall that combined with the rapidly increasing military costs to place the Crown under serious financial strain. Rather than abandoning their

³ See Kennedy (1987), pp. 31-55.

⁴ North and Weingast (1989) argue that a government may agree to accept limits on its power in exchange for revenue when its constituency is organized and strong enough to credibly threaten the removal of the ruler. The military superiority of the Spanish kings, on the other hand, gave them free rein in deciding the use of the resources of their realm.

imperial pursuits, however, the Habsburgs chose to seek additional resources following a path of least resistance. They first resorted to a variety of devices that undermined property rights in land, commerce and financial assets, followed by the sale of titles of nobility and tax exemptions.⁵ When at last tax reform became unavoidable, it fell the hardest on those that had not been able to escape into the rent-seeking havens of the nobility and the clergy, dealing yet another blow to the productive sectors of the economy. My theoretical framework incorporates tax exemptions and a tradeoff between productive and rent-seeking uses for skilled human capital to show how the Habsburg policy drove Spain into a stable, high rent-seeking equilibrium, from which it would not be able to free itself without systemic reforms.

2. An Imperial utility function, a Spanish budget constraint

Dynastic power and territorial expansion

The overarching question in the historiography of sixteenth century Spain is what drove the Habsburg monarchs to pursue their overambitious, if not irrational, military enterprises. Any consideration of the problem cannot avoid a scrutiny of Charles V, the dominant figure in European politics in the first half of the sixteenth century and the charter of the path that Spain would follow for almost two centuries. Thanks to several generations of intermarriages between the crowned houses of Europe, the latest round of which had been tirelessly orchestrated by his grandfather Ferdinand the Catholic, Charles of Ghent became the heir to a vast array of territories, including all the Spanish kingdoms, southern Italy and the duchy of Milan, Flanders and several provinces of the Low Countries. His election to the throne of the Holy Roman Empire also gave him at least nominal power over Germany; his connections by blood or

⁵ The relationship between natural resource booms and rent seeking is analyzed by Baland and Francois (2000), Torvik (2002), and Lam and Wantchekon (2002). Asea and Lahiri (1999) discuss the impact of natural resource booms on investment in human capital.

marriage afforded him sway over Portugal and Austria, and he could even briefly boast an alliance with England thanks to the wedding of his son Philip with Mary Tudor. Charles worked relentlessly to expand his dominions through conquest, alliance and further marriages, incurring enormous expenses that were almost exclusively financed with the credit of the Crown of Castile, the collateral of which was none other than the silver remittances from the American colonies.

At the heart of Charles' geopolitical thought was his vision of a unified Christian empire, which he pursued through his quest for the unity of the Catholic faith and his constant efforts to consolidate his dynastic legacy.⁶ Unity of the faith was a constant worry for Charles, who felt compelled to fight without any concessions both the doctrinal and political expressions of Protestantism, regardless of the cost. The military campaigns to uproot heresy and restore allegiance to the Imperial Crown were seen by the Emperor with a sense of inevitability; his personal correspondence is full of instances where he expresses his aversion to new armed conflicts and his awareness of their prohibitive costs, but he eventually yields to his conscience, which leaves him no other option than to engage in them.⁷

Charles pursued his dynastic objectives with similar zeal. His own marriage to Isabel of Portugal would eventually deliver the throne of that country to his son Philip, and with it a vast trading empire along the coast of Africa and in the Indian Ocean. Philip's second marriage to Mary Tudor, who had once been betrothed to Charles himself, was an attempt to seal an alliance with

⁶ For an analysis of the dynastic motives behind Charles international policy see Parker (1999).

⁷ Upon departing from Spain to fight the protestant princes in 1543, Charles appointed Philip as regent, leaving him secret instructions where he brooded over the dangers the coming conflict carried for his empire and the enormous cost it would impose on Castile, even if he were to emerge victorious. His conscience, however, left him no other choice than to pursue it to the end. For the complete text, see Fernández Alvarez (1973-81) vol. II pp. 104-118. For further discussions of Charles motives behind his military engagements see Carande (1943), p.83, Parker (1999), p. 124, and Tracy (2002).

England and complete the political and military isolation of France. The move floundered when the Queen died without having produced an heir, delivering the throne to Elizabeth, who would become one of Spain's most persistent and damaging foes.

Dynastic policy, whether successful or not, carried enormous costs, mainly in the form of dowries, luxurious displays, territorial concessions, tax and trading benefits and many other clauses in the nuptial agreements. As an example, the fleet that carried Prince Philip to meet Mary Tudor in 1554 consisted of 125 ships; once the dowries, soft loans and other expenses are added, the amount spent on the botched marriage might well have been in the same range as the setup cost of the Invincible Armada, which boasted 130 ships.⁸ In luring the elusive Albion, neither war nor love seemed to work for Spain.

Absolutism triumphant: the revolt of the comunidades

Charles ruled over a large number of territories, but as a result of the constitution of his empire, Castile alone would wind up shouldering the bulk of his imperial expenses. In 1517, the negotiations to determine the successor of Maximilian of Habsburg on the throne of the Holy Roman Empire got under way, featuring Charles and Francis I of France as the two main contenders, and rapidly accelerated after Maximilian's death in 1519. The King of the Romans, successor to the Emperor (or in this case, since the throne was vacant, the Emperor himself) was to be chosen by seven princes-electors, who weighted political, military and monetary reasons before casting their votes. An electoral campaign could be expensive; attentions had to be bestowed on the electors, diplomacy had to perform at its best, a military presence had to be established to back up the seriousness of the imperial bid, and, if successful, the promised

⁸ Carande (1949a), pp. 133-136.

pensions, gifts and bribes had to be honored.⁹ In what was to become the start of his symbiotic relationship with the great banking houses of Europe, Charles lined up the house of Jacob Fugger, who not only provided the loans and the financial engineering to transfer the needed money to Germany, but also refused to honor Francis' bills of exchange.¹⁰

Contrary to common belief, the electoral bill was mostly footed by Charles' Dutch possessions, and not by his Spanish kingdoms.¹¹ In any case, the direct costs were under a million Dutch florins, a fraction of the silver hauled by any one fleet after the American mines started producing in earnest.¹² Spain, however, had quietly acquired a much larger liability. One of the conditions imposed on Charles by the imperial electors, whose lineages had a few centuries of experience at the game of picking emperors for fun and profit, was that no German revenues could be spent by the Emperor outside of Germany.¹³ The Golden Bull, the constitutional document which had governed the election of the Emperor since being issued in 1356 by Charles IV of Bohemia, further specified that any mineral wealth, tolls and rights to tax the Jews were to remain exclusively in the domain of the German princes, who also retained control over coinage.¹⁴ The obvious consequence was that any expansion or defense of the Empire would

⁹ While the traditional view of the 1519 election is that Charles bribed his way to victory, Cohn (2001) contends that monetary payouts to the electors had little influence in deciding the election, while political, military, diplomatic and dynastic issues carried far more weight. Bribes, however, still had to be paid, regardless of their importance in swaying the electors.

¹⁰ Parker (1999), p. 121.

¹¹ Carande (1949b), p. 45.

¹² Cohn (2001), p. 23.

¹³ Carande (1949b), p. 19.

¹⁴ For the original Latin text of the Golden Bull see Reich (1905), pp. 323-336. For an English translation, see Henderson (1910), pp. 220-261. Chapter IX discusses the allocation of rights over mines, tolls and taxes on the Jews, while chapter X reserves the right to coin money for the German princes. The electors enforced these provisions as staunchly as they disregarded the prohibition of taking bribes from candidates to the throne.

have to be financed out of Charles' other dominions, and Spain was quickly becoming the prime candidate to pay for any future imperial bills.

It was Charles more modest request for Castile to finance his trip to take possession of the imperial title, however, that triggered one of the pivotal events in the institutional life of Spain, and eventually handed its kings almost unchecked power over its resources. Once the imperial election had been decided in his favor Charles left for Germany, appointed his tutor, Cardinal Adrian of Utrecht, as regent, and convened the Cortes, a quasi-parliamentary body composed of representatives of the major cities, asking them for an extraordinary subsidy (*servicio*) to pay the expenses of his voyage. Such trips were never cheap; the entire court in all its grandeur moved with the king, and the sojourn could easily last for a few years. Charles had been in Spain for less than two years, and his reputation as an absentee king was only strengthened by the new request, while the reaction to foreigners in the royal court was heightened by Adrian's appointment. The Cortes of 1520 were summoned to the unusual location of Santiago de Compostela and later moved to even more remote La Coruña, where the representatives, far from their constituencies, could be more easily bribed or strong-armed into compliance. Although the Cortes voted the requested subsidy as expected, Charles move was the tipping point for a movement that had been quietly brewing for several years to explode in full force as the revolt (or revolution, as many historians would call it) of the *comunidades*.¹⁵

The rebellion of the *comunidades* (autonomous cities), also called of the *comuneros*, is one of the most controversial topics in Spanish social and political historiography.¹⁶ It flared between May

¹⁵ Parker (1999), p. 127.

¹⁶ For three landmark works on the rebellion of the *comunidades* and their socioeconomic context see Maravall (1963), Pérez (1970) and Haliczzer (1981).

1520, when a mob in Segovia lynched a delegate of the city who had just returned from the Cortes of Santiago, and April of 1521, when the royalist forces massacred the rebel militia at the battle of Villalar. At its peak, thirteen cities of the northern plateau, the richest industrial area, openly confronted the regency; Tordesillas served as the site of their *Junta*, with the captive Queen Joanna, Charles' mentally feeble mother, manipulated into providing an air of legitimacy for the revolt. The antisegneurial and antiaristocratic nature of the movement, however, brought the men and resources of a large number of previously indifferent lords to bear on the battlefield; the recovery of Tordesillas dealt a severe blow to the movement, and prompted the defection of the first cities. Despite a few additional gains, the fate of the *comuneros* was sealed by the next Spring.¹⁷

Often hailed as an uprising by oppressed masses against royal power, the *comuneros* revolt was actually engineered by the urban lower nobility and well-to-do bourgeoisie, who saw their social and economic standing threatened by an advancing system of privileges that concentrated rents and power in the hands of the upper nobility, the clergy and the king's entourage. The failure of the rebellion consolidated the concentration of power in the hands of the king, and ratified the role of the Cortes as little more than a rubberstamp for the demands of the sovereign.¹⁸

Pettengill (1979) suggests that the military revolution of the Early Modern Age was one of the major determinants of the concentration of wealth in the hands of the European elites in the sixteenth and seventeenth centuries, to the detriment of peasant and lower urban classes. The move towards heavy artillery and sophisticated fortresses gave nation-states, which could enjoy

¹⁷ Haliczzer (1981), pp. 3-6.

¹⁸ See Lynch (1991) for an analysis of the consolidation of absolutist power in the wake of the revolt of the *comunidades*.

significantly larger economies of scale, a decisive advantage over cities. The final act of the revolt of the *comuneros*, with the royal cavalry and artillery crushing the rebel infantry at the battle of Villalar, is a fitting illustration of this theory. When Charles returned from Germany, the mercenary infantry he had brought along was no longer necessary; cannon and arquebuses had handed him very broad discretion over the use of the resources of Castile.¹⁹

3. Silver and public debt

What made Spain different?

By 1521, and thanks to a combination of military technology and support of the rentier classes, the Spanish kingdoms were under the firm grip of an absolutist monarchy. This was not, however, an unusual situation in Western Europe, and by no means handicapped Spain in comparison with the other military and economic powers. Among them, the England of Henry VIII showed as little respect for property rights as any other European monarchy, as the expropriation of ecclesiastical goods in the 1530s illustrates. Every military action Henry engaged in, however, placed his treasury under serious strain, limiting him to attending only to the most urgent, defensive matters.²⁰ France was ruled by the Valois dynasty, whose scion Francis I harbored designs as ambitious as those of Charles, but could only count on limited tax revenues to pursue them. The French absolutist control, which was not in place until the late fifteenth century, acted as a superstructure over existing regional systems, creating a large bureaucracy, doubling functions and expenses, and starting to rely heavily on venality and tax

¹⁹ For the role of Spain in pioneering the military revolution of the sixteenth century see Parker (1976). For its relationship to the Habsburg imperial campaigns, see Kennedy (1987), pp. 45-46.

²⁰ Kennedy (1987), p.60.

farming.²¹ Germany and Italy were nothing more than clusters of statelets, some ruled by extremely localist princes, some claimed by the great monarchies, and most often both. Spain had nothing to set her apart from its neighbors in a negative way. Her environment, while less hospitable than many other parts of Europe, was still conducive to a thriving agricultural economy, as the Arabs had proved throughout their seven centuries in the peninsula. While her population was growing, the natural resources of the country were still abundant, and Malthusian checks were not a looming prospect.²² Spain had a comparative advantage in several industrial sectors, primarily woolen textiles, silk, leather manufactures, food products, metallurgy and mining.²³ The political system, while drifting away from the kind of institutional structure most conducive to economic growth, did not inevitably condemn the country to economic backwardness, as it did not condemn every other country with similar features. What set Spain apart was that her rulers had access to a level of credit other sovereigns could only dream of. Behind that credit stood the richest silver mines in the world.

Short and long-term debt

During Charles' reign the instrument of choice to place the financial resources of Castile wherever in Europe they were needed were short-term bank loans called *asientos*. Concerted

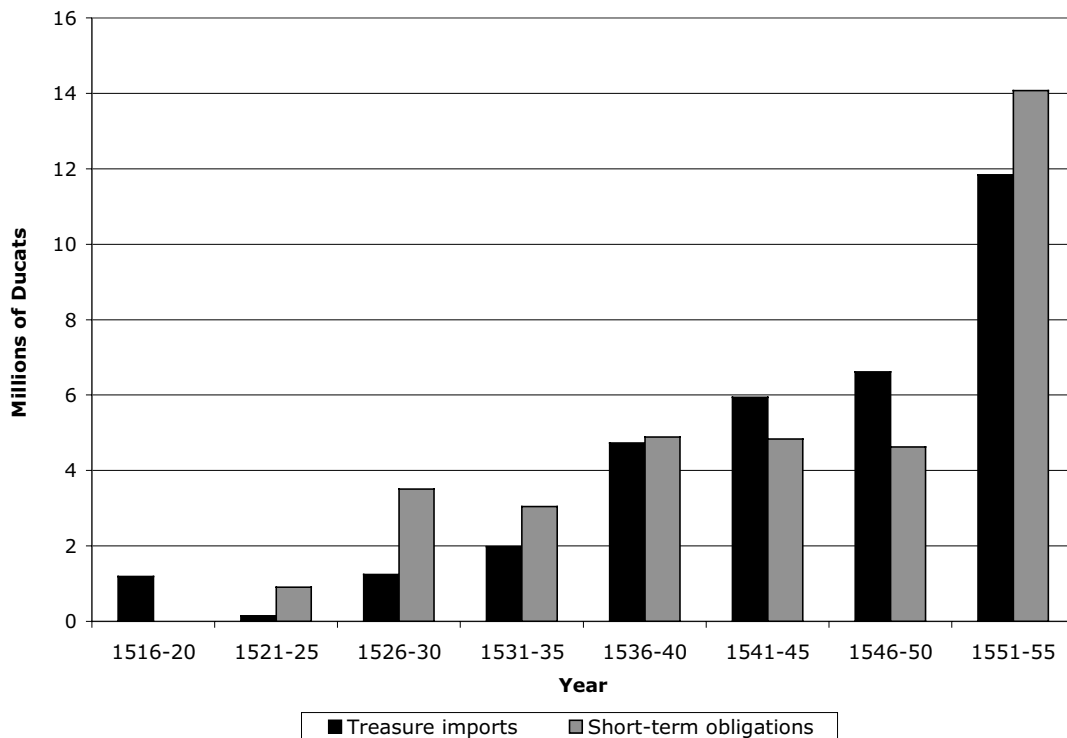
²¹ Brewer (1988), p. 6.

²² Phillips (1987) has attempted to explain the long term economic cycles of the Spanish economy with a Malthusian framework. More recent scholarship has cast some doubt over Malthusian explanations, pointing out that the Spanish kingdoms had supported far denser populations than they did during the declining phases of the sixteenth and seventeenth centuries. Yun Casalilla (2002) documents labor scarcity in the early sixteenth century (p. 54), while the high urbanization index of Castile, second only to the Low Countries and Italy, indicates the presence of sufficient agricultural surpluses (p. 68). See also Marcos Martín (2000), p. 449.

²³ Yun Casalilla (2002) characterizes Castile as one of the most export-oriented economies of the late fifteenth and early sixteenth centuries (p. 52-53, 59). See also Vázquez de Prada (2000), p. 224. For references to the textile, silk, leather and weapons industries, see Carande (1943), pp. 116-123. For the woolen cloth industry, see also Phillips and Phillips (1997), p. 202. I have elsewhere documented extensively the exports industries from the different Spanish regions (Drelichman 2003).

mainly with Austrian, German and Genoese bankers, *asientos* did not require clearance from the Cortes, leaving the king free to take on as much debt as the market would bear. The news of silver discoveries and the subsequent increase in remittances fueled a veritable explosion of short-term debt, which Charles used to pay his mercenary armies throughout Europe, getting little in return. Figure 1 shows the series of *asientos* compiled by Carande (2000) for the years 1520-1555, grouped by 5-year periods, together with the total imports of treasure.²⁴

Figure 1: Treasure imports and short-term loans



Source: Carande (2000), pp. 426-27, 463, 505 and 562-63; Hamilton (1934), p. 34

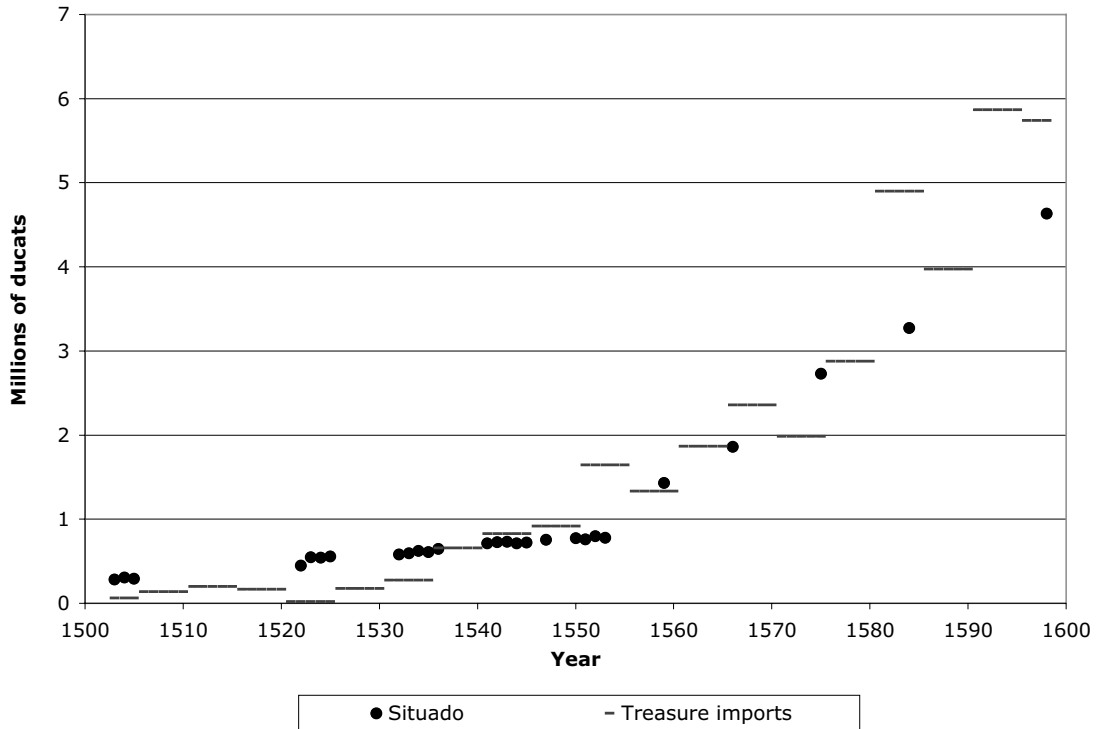
²⁴ The term of the *asientos* usually did not exceed one year, and so the effect of time lags on the five-year grouping should be minimal, if any. In constructing the chart, I augmented the amount of each *asiento* with the interest, fees and exchange commissions negotiated with the bankers, thus reflecting the total obligations assumed by the Crown. It is also noteworthy that most of the *asientos* incurred by the Crown during Charles' reign carried a clause protecting the principal from eventual debasements in the currency (Carande 1949a, p. 138). Such a clause made Charles a staunch defender of sound money, a practice that his son Philip would also carry forward, and from which Spanish monarchs would only depart in the seventeenth century.

The close correspondence between treasure imports and short-term debt is immediately obvious, as is the sharp increase in the amount of debt incurred once the news and first yields of the mines of Potosí and Zacatecas reached Spain. When reading the chart, it should be kept in mind that the Crown was only entitled to an average of 26% of all the treasure that reached Spain, and therefore the short-term debt quickly outpaced the treasure revenues.²⁵

After the bankruptcy of 1557, which converted all outstanding *asientos* into 5% long-term bonds, the Austrian bankers withdrew from the business altogether, while the Genoese devised sophisticated hedging and rent-seeking strategies that raised the cost of short-term debt. Philip's government turned increasingly to long-term or perpetual bonds called *juros*, which found a growing market among the Spanish rentier classes, hungry for sources of fixed income. Figure 2 shows the yearly interest payments the Crown made on the *juros*, called the *situado*, and compares them to the total amount of treasure imports from the Indies, expressed as yearly averages. The crown was still entitled to collect roughly a quarter of all treasure shipments, and so debt service continued to fast outpace silver revenue.

²⁵ While the Crown was only entitled to 20% of the private remittances, it maintained a few mining operations that increased its final share of the bullion shipments to the figure of 26% calculated by Hamilton (1934, p. 34).

Figure 2: Treasure imports and long-term debt



Source: Artola (1982), p. 88; Hamilton (1934), p. 34, and author's calculations.

Silver and empire

Several authors have identified the treasure of the Indies as the main enabler of the Crown's imperial designs in the sixteenth century, while also arguing that excessive expectations over future yields were a principal determinant of the Crown's financial woes in the second half of the sixteenth century. Carande, perhaps the most prominent scholar on the financial aspects of the policy of Charles V, sets 1551 as the date in which the Crown deliberately shifted its focus to make the Indies the centerpiece of its fiscal policy and points to the gap between expectations and reality.²⁶ He also argues that the credit commanded by Castile, far higher than that of any other contemporary power, was based on the extraordinary resources of America, and that the

²⁶ Carande (1943), pp. 312-14.

exaggerated expectations over future bullion shipments allowed Charles to obtain large loans even in the desperate military situation in which he found himself in 1552.²⁷ Modern scholarship has echoed Carande's assessment. Kamen (2003) reports the interest with which Charles received the news of the conquest of México, and the excitement of a royal official, who predicted Seville would become the richest city in the world.²⁸ Yun Casalilla (1998) observes that, while the bullion shipments were growing, so were the costs of maintaining the empire; the defense of such an extended system of colonies and of the fleets that transported goods and treasure required large sums, and the increasing number of public officials overseas also took their toll. The net profit of the Crown, as a result, was much lower than the large sums that passed through its hands.²⁹ De Carlos (1996), in his study of the *Consejo de Hacienda*, the body that oversaw the finances of Castile, traces the accumulation of debt to the "excessive valuation of the fiscal possibilities of the Indies."³⁰ And Ruiz Martín (1965), when studying the mechanisms used by the German and Genoese bankers to secure profits in the face of the unpredictability of the revenues of the Crown, concludes that the financial revolution and debt explosion experienced by the Castilian treasury would have never happened if not for the treasure of the Indies.³¹

²⁷ Carande (1949a), p. 10; (1949b), p. 25.

²⁸ Kamen (2003), p. 88.

²⁹ Yun Casalilla (1998), p. 124. While comprehensive defense expenditures for the sixteenth and seventeenth centuries are not available, the arming and victualing of the treasure fleets and the administrative expenses of the colonies must have been quite substantial. Yun argues that by the eighteenth century (when according to Morineau silver imports were at their peak), the total defense costs of the American colonies exceeded the silver returns.

³⁰ De Carlos (1996), p. 90.

³¹ Ruiz Martín (1965), p. 16.

4. The rent-seeking structure of sixteenth-century Spain

The Crown at the top of the rent-seeking structure: arbitrios and expedientes

Since very early into Charles' European campaigns, the Castilian treasury struggled to keep up with the Emperor's demands. Short-term debt, provided by only a handful of bankers, tended to get expensive very quickly if payments were not timely honored. Once the marginal cost of additional financing through the banking houses became too high, the Crown started encroaching on the property rights of cities, corporations, and common citizens, using a number of devices known as *arbitrios* and *expedientes*.

The first and most straightforward of such devices was the confiscation of private treasure before it was released by the House of Trade to its rightful owners. The first confiscation occurred as early as 1523, when 200,000 ducats were taken to pay for the army that would fight the rebel king of Navarra, and the practice, although sporadic at first, slowly became a standard feature of royal policies. Table 1 reports the amounts confiscated as a percentage of private treasure during Charles reign; confiscations oscillated according to the situation of the Crown, but in several occasions they affected the totality of the treasure deposited at the House of Trade.

Table 1: Confiscations of precious metals
as a percentage of private treasure.

Period	Amount confiscated (ducats) ^a	Percentage of private treasure
1521-1525	200,000	22.74%
1526-1530
1531-1534	860,000	58.84%
1535-1540	370,000	11.92%
1541-1545	227,700	4.52%
1546-1550
1551-1555	1,774,258	23.70%
1556	1,867,056	100.00%

Source: Hamilton (1934), p. 34, Carande (2000), p 566, and author's calculations.

^a Carande warns that these amounts should be taken as a lower bound, since in many cases conflicting reports on confiscations mention larger figures.

Instead of their bullion, the disgruntled owners of confiscated treasure were normally issued non-redeemable *juros* which yielded between 5.5% and 7.14% annually.³² It doesn't come as a surprise that smuggling started to rise; legal treasure imports paid a 20% tax rate to the Crown, and faced the prospect of being requisitioned through a forced loan, while a bribe of between 7% and 8% was sufficient to enlist a ship captain or a corrupt royal official to smuggle the bullion, either into the country or onto a foreign vessel waiting at the mouth of the Guadalquivir river, just before the ships started the final stretch of their voyage to Seville.³³

During Philip's reign, the *arbitrios* and *expedientes* proliferated; of particular importance were two devices that placed the crown on a collision course with the cities. The first one was the privatization of common lands, based on the medieval legal doctrine that the common holdings

³² Ruíz Martín (1965), p. 17.

³³ Morineau (1985), p. 112.

of the cities were the personal property of the king, which forced the cities to purchase access to the grazing ranges, woods and waste areas they had enjoyed and administered for centuries. A much more damaging practice, however, was the decision of the Crown to grant *privilegios de villazgo*, the right to collect the taxes over a jurisdiction and to control a local government. Many towns incurred large debts to purchase their adjacent lands and buy their own *villazgos* from the Crown, in a desperate attempt to maintain control over their resources. The resulting debt burden, however, saddled them with substantially higher taxes and left them defenseless against new royal intrusions. Many eventually became subject to the caprices of overlords who, with the backing of the Crown, made it their work to extract as much resources as possible from their newly acquired domains.³⁴ While *villazgos* brought in ready money for Philip's treasury, he would come to regret their indiscriminate sales; having farmed out tax collection to the new overlords, he found himself in an extremely weak negotiating position when the *arbitrios* and *expedientes* exhausted their potential, and fiscal reform was the only route left.

The treason of the bourgeoisie

Since the times of the Reconquista, tax exemptions were enjoyed by *hidalgos*, the “sons of something,” while the *pecheros*, those who did manual or physical work, carried the fiscal burden. Originally reserved for the younger sons of noble families, under Charles reign *hidalgo* status became attainable by the acquisition of a plot of land or the purchase of a patent, available to everyone who could demonstrate that his family was of pure Christian descent and could come up with the money to buy the privilege.³⁵ *Hidalgos* were characterized by a strong aversion to manual work; manual and mercantile activities were, in the early *hidalgo* mentality, associated

³⁴ Yun Casalilla (2002), p. 81.

³⁵ Marcos Martín (2000), p. 191.

with the *moriscos*, the Arabs who had converted to Christianity after their defeat in the Reconquista. By the mid-sixteenth century, however, manual work was identified with *pecheros* and their obligation to pay taxes, precisely what *hidalgos* were keen on avoiding the most.

Calculations based on the census of households of 1542 allow to infer that by that time at least 12% of the Spanish population enjoyed *hidalgo* status. To this already high number one must add the “dead hands” of the clergy to obtain a rough idea of the enormous proportion of idle population in Spain. The problem would get only worse in the second half of the century.³⁶

Starting in the 1560s, the situation of the middle classes deteriorated steadily, as new taxes and levies were imposed on merchants, artisans and laborers, as well as on any other person who did not enjoy a tax exemption. Manufacturing was already suffering from the loss of competitiveness generated by the flood of American treasure, as the increase in the cost of inputs drove up the price of Spanish exports. On top of it, the economic crisis that had crept into the Castilian economy in the 1570s was already causing sharp drops in internal demand in many areas of the country.³⁷

With returns to manufacturing and commerce steadily decreasing, the increased fiscal pressure made the purchase of *hidalguías* more attractive than ever, and while in the past the requirement of abandoning productive work might have deterred artisans and merchants from ascending to the lower step of nobility, the economic downturn had dramatically lowered the opportunity cost of becoming an idle hand. Marxist historians and sociologists saw the ensuing flight of the middle classes to purchase *hidalguías* as a cowardly rejection of their historical role to nurse the

³⁶ For a discussion of the evolution of *hidalgo* and *pechero* status see Nadal i Oller (2001), pp. 37-43.

³⁷ For a survey of Spanish economic decline in the sixteenth and seventeenth centuries with particular emphasis on the effects of American treasure on the relative price of exports see Drelichman (2003).

seeds of capitalism to full maturity, and disdainfully christened it “the treason of the bourgeoisie.”³⁸

Blissfully unaware of their historical role and their future conviction of treason, merchants who had seen their businesses falter despite their best efforts and their wealth and profits taxed to the limit cut their losses by becoming *hidalgos*, taking advantage of the tax exemptions inherent to their new status and moving their assets into *juros*, which were rapidly becoming the investment of choice, since they at least were unlikely to be completely repudiated.³⁹ The immediate effect of this trend was a fresh stream of revenue for the Crown, both from the sales of *hidalguías* and from the new demand for *juros*; the long run effects, however, were possibly the most harmful of any public policy enacted up to that time. The flight of the middle class to the lower nobility eroded the taxable population, spreading the fiscal burden over less individuals and businesses and setting in motion a vicious circle: the more merchants and craftsmen became idle and tax-exempt, the greater the incentives for those who still persevered in their profit-seeking endeavors to follow the example of the newly made *hidalgos*.

Table 2 shows the distribution of the *servicio de millones*, the broad, multi-year tax voted in 1590 in the wake of the disaster of the Armada. It is easy to see how the bulk of the tax fell on the *pecheros*, while the clergy and the *hidalgos*, who owned the vast majority of wealth, shouldered a minimal fraction.

³⁸ Yun Casalilla (1998, p. 80) attributes the coinage of the expression to Fernand Braudel.

³⁹ See Phillips and Phillips (1997), p. 203, for a recount of the effect of the treason of the bourgeoisie on the textile industry.

Table 2: Allocation of the portion of the *servicio de millones* corresponding to the year 1590

Class	Ducats	Share
Pecheros	282,780	88.9%
Hidalgos	31,937	10.0%
Clergy	3,434	1.1%
Total	318,151	100.0%

Source: Artola (1982), pp. 476-77.

While the 1590 portion of the *millones* was fairly small, its allocation was typical of the distribution of the tax burden. The combination of the allocative inequality with the increased fiscal pressure would have lasting negative consequences as the middle classes took advantage of the existing social structures to elude the always unsatisfied appetite of the state.

Another privilege of *hidalgos* was the ability to constitute entails, called *mayorazgos*, with their property. Entailed goods and real estate could not be separately sold, embargoed or divided among heirs. Since the *mayorazgo* passed in its entirety to the eldest son, the upper and lower nobility alike produced a steady stream of new *hidalgos* devoid of property, who, in order to preserve their tax exemption, steered clear of productive work, joining either the clergy or the military.

Entailed property, either in the hands of the nobility or the clergy, amounted to between 50% and 60% of all real estate.⁴⁰ To make matters worse, the privileged classes usually found their way to acquire the best land, leaving marginal ones to freeholders. Shielded from market forces, entails

⁴⁰ Marcos Martín (2000), p. 186.

were seldom put to their most productive use, while a large proportion of the population sat idle, living off the rents generated by others.

5. A model of taxation and rent seeking

I have so far described the key elements of the Spanish institutional environment in the sixteenth century: an absolutist government, which valued its empire much more than its subjects; a silver windfall, which served to finance the pursuit of such an empire; a succession of property-right altering devices, which increased the scope for rent-seeking; and a system of privileges that encouraged the middle class to abandon productive work and constitute tax-free land entails. I now develop a theoretical framework to study the effects of such a combination on the long-term economic development of Spain.

Consider an economy with two sectors, land products and manufactured goods. Land products are produced proportionally to the supply of land employed. Production of the manufactured good is undertaken by skilled entrepreneurs, who can choose to allocate their labor to either production or rent-seeking activities.⁴¹ Demand for both goods is assumed to be infinitely elastic; the price of manufactured goods is normalized to 1, while the price of land products is normalized so as to make the total value of land products equal to the total supply of land, A . The magnitude A can be thought of as the baseline income of the economy.

The maximization problem of skilled entrepreneurs

The supply of skilled labor is normalized to 1, and manufactured goods are produced according to the production function

⁴¹ The production and incentive structure in this model is based on Baland and Francois (2000).

$$M = f(h) \tag{1}$$

where $h \in [0,1]$ is the amount of skilled labor allocated to production, and, for all $h \in [0,1]$, $f(h)$ satisfies $f(0) = 0$, $f'(h) > 0$, $f''(h) < 0$, $\lim_{h \rightarrow 0^+} f'(h) > A$ and $f'''(h) < 2f''(h)^2 / f'(h)$.⁴²

All production is taxed by the government at a tax rate $\tau \in [0,1]$.

To capture the tradeoff between productive work and tax exemptions, skilled entrepreneurs can allocate a portion $(1-h) \in [0,1]$ of their labor to rent-seeking activities. If they do so, they receive a fraction $(1-h)$ of land in entail. Entailed land does not pay taxes, and therefore its production, $(1-h)A$, is solely enjoyed by the rent seeker.

Skilled entrepreneurs choose how to allocate their labor by solving:

$$\max_{h \in [0,1]} \Pi = (1-\tau)f(h) + (1-h)A \tag{2}$$

Taking the first order condition of the entrepreneur's problem and solving for τ yields:

$$\tau = 1 - \frac{A}{f'(h)} \tag{3}$$

Lemma 1 in the appendix shows that equation 3 is strictly decreasing and strictly concave for $h \in [0,1]$.

Let \bar{h} be the point where equation 3 equals zero. Note that \bar{h} must satisfy $A = f'(\bar{h})$. Whenever

$\bar{h} < 1$ the inverse reaction function of entrepreneurs to the tax rate set by the government can

therefore be written as:

⁴² Requiring $\lim_{h \rightarrow 0^+} f'(h) > A$ ensures that, at some positive tax rate, it will be worthwhile for entrepreneurs to engage in some amount of productive work. The condition $f'''(h) < 2f''(h)^2 / f'(h)$ is necessary to ensure the concavity of the reaction function of skilled entrepreneurs. Note that a stronger sufficient condition is $f'''(h) \leq 0$.

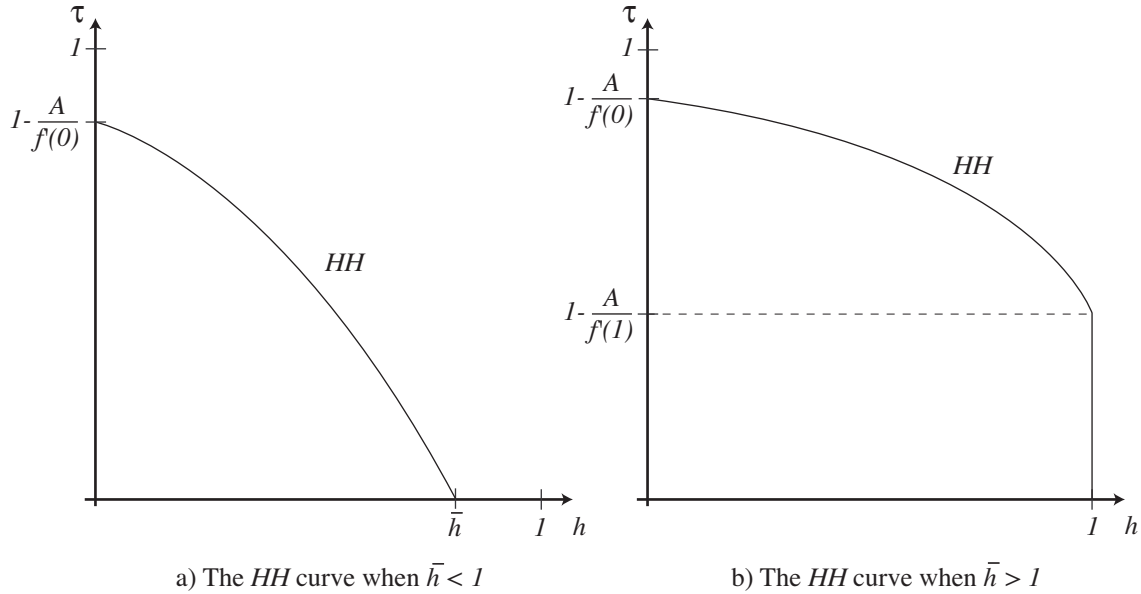
$$HH = \begin{cases} h = 0 & \forall \tau \in \left[1 - \frac{A}{f'(0)}, 1\right] \\ 1 - \frac{A}{f'(h)} & \forall h \in [0, \bar{h}] \\ 0 & \forall h \in [\bar{h}, 1] \end{cases} \quad (4)$$

If $\bar{h} > 1$, the inverse reaction function takes the form:

$$HH = \begin{cases} h = 0 & \forall \tau \in \left[1 - \frac{A}{f'(0)}, 1\right] \\ 1 - \frac{A}{f'(h)} & \forall h \in [0, 1] \\ h = 1 & \forall \tau \in \left[0, 1 - \frac{A}{f'(1)}\right] \end{cases} \quad (5)$$

Figure 3 illustrates both possibilities.

Figure 3: The (inverse) reaction function of skilled entrepreneurs



The HH curve describes how skilled human capital reacts to any government's choice of tax rates. Since the curve always intersects the vertical axis below one, entrepreneurs will drop productive work altogether when tax rates reach some level below 100%. The exact level is determined by the value of land subject to entail, A , and by the marginal productivity of skilled labor, $f'(h)$, when $h = 0$.

The relationship between the marginal productivity of labor and the value of land will also determine whether the HH curve will exhibit a vertical portion when $h = 1$ or not. If the marginal productivity of labor is high enough (that is, if $f'(h) > A$ for all $h \in [0, 1]$, and therefore $\bar{h} > 1$) skilled entrepreneurs would respond to an elimination of taxes by devoting all their time to productive activities (panel b of Figure 3). However, if the marginal productivity of labor

dropped so sharply that $f'(h)$ became smaller than A for some $h \in [0,1]$, then \bar{h} would be less than one, and so entrepreneurs would engage in rent seeking even in the complete absence of taxation (panel a of Figure 3). Note also that entrepreneurs do not benefit in any way from taxation, and always prefer the lowest possible tax rate, since it allows them to realize higher profits.

The government's problem

The government has two sources of income, taxation of manufactures and non-entailed agricultural production, and an exogenous rent S , which can be thought of as a natural resource windfall. Paul Kennedy observed that Spain's European dominions were strategically interdependent in such a way that scaling back military operations in any one of them would have jeopardized the stability of the rest; the pursuit of Empire was a binary decision, with little freedom in regard to its size.⁴³ I therefore restrict the government's choice set of expenditure policies to $\{\bar{R}, \underline{R}\}$, where \bar{R} is the amount of resources required to sustain such an empire, while \underline{R} represents the outlays needed to just maintain domestic rule. \bar{R} is obviously greater than \underline{R} , which in turn is assumed to be greater than S , so not even domestic expenditures can be paid fully out of resource rents.

The decision on whether to engage in imperial policy defines the government's budget constraint, which is met by using the natural resource rents and by raising taxes on manufacture and non-entailed agricultural production. Since there is no use for excess revenue, the government chooses the tax rate that exactly satisfies the budget constraint, and is penalized for deviating from it. Taking the value of h chosen by entrepreneurs as given, the government solves

⁴³ See Kennedy (1987), pp. 49-52.

$$\max_{\tau \in [0,1], R \in \{\underline{R}, \bar{R}\}} V(R) - |R - S - \tau[f(h) + hA]| \quad (6)$$

$V(\bar{R})$ is assumed to be greater than $V(\underline{R})$, indicating that the government is keen on conducting an imperial policy. The second term is the budget surplus of shortfall; since hA is the non-entailed portion of land, $f(h) + hA$ represents total taxable production.

Clearly, as long as the budget can be balanced, the government will choose the higher expenditure level. In consonance with the idea that the American metals allowed Charles to kick off his imperial adventures, a high enough S will always allow the government to balance the budget and choose $R = \bar{R}$. I will therefore take that choice as given from this point on, returning to it in the comparative statics exercises that place strain on the budget constraint and might therefore force the government to reconsider its imperial policy.

Holding the choice of R constant and solving the budget constraint for τ yields

$$\tau = \frac{R - S}{f(h) + hA} \quad (7)$$

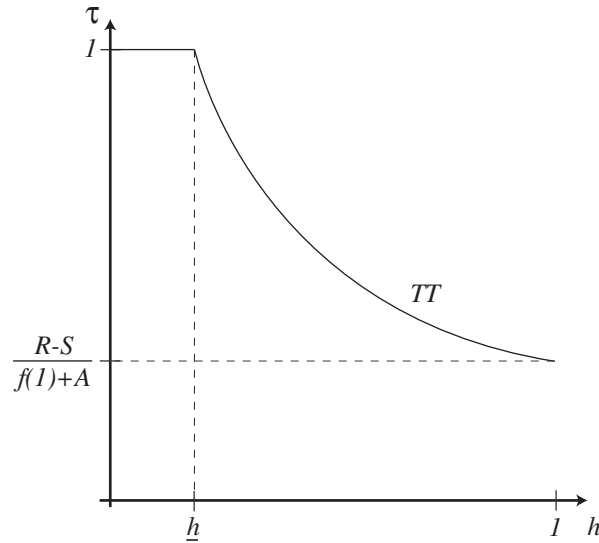
Let \underline{h} be the level of h that satisfies $\tau = 1$. Then $R - S = f(\underline{h}) + \underline{h}A$, and since $R - S > 0$, \underline{h} is strictly positive. \underline{h} can be thought of as the critical mass of skilled human capital that has to engage in productive activities for the government to collect enough taxes to satisfy its budget constraint. Whenever $h < \underline{h}$ the government falls short of its revenue target and, as long as its choice of R remains unchanged, it responds by trying to raise as much money as possible, setting $\tau = 1$. If $\underline{h} < 1$, the government's reaction function to the skilled entrepreneur's choice of h is

$$TT = \begin{cases} 1 & \forall h \in [0, \underline{h}] \\ \frac{R-S}{f(h)+hA} & \forall h \in [\underline{h}, 1] \end{cases} \quad (8)$$

If $\underline{h} > 1$, the reaction function is $\tau = 1$ for any choice of h .

From equation 8 note that $TT(1) = (R-S)/[f(1)+A] > 0$, and so the tax rate must be strictly positive for any possible choice of h . Lemma 2 in the appendix shows that equation 7 is strictly decreasing and strictly convex in h . Figure 4 illustrates the government's reaction function for $\underline{h} < 1$.

Figure 4: The government's reaction function (for $\underline{h} < 1$)



The flat portion of $TT(h)$ can be interpreted as a “bankruptcy region.” If most skilled human capital decides to drop out of productive work and acquire tax-exempt land, there will not be

enough production to tax, and the government will be unable to meet its revenue target (as discussed below, the government may still prefer bankruptcy to abandoning its imperial policy). If enough entrepreneurs decide to engage in productive work such that $h > \underline{h}$, the government will be able to satisfy its budget constraint and set $\tau < 1$.

Equilibria

In equilibrium, the government's choice of a tax rate must be consistent with the entrepreneurs' choice of how much of their time to devote to productive activities. An equilibrium is therefore a pair $(h^*, \tau^*) \in [0,1] \times [0,1]$ that satisfies

$$HH(h^*) = TT(h^*) = \tau^* \quad (9)$$

Note that $(h, \tau) = (0,1)$, where entrepreneurs devote all their time to rent seeking while the government is bankrupt and tries to extract as much tax revenue as possible, is always an equilibrium.

An *interior equilibrium* is an equilibrium that satisfies $(h^*, \tau^*) \in (0,1) \times (0,1)$. At interior equilibria, the government is satisfying its budget constraint, the tax rate is strictly less than one and at least some entrepreneurs are engaging in production rather than rent seeking.

In any (non-equilibrium) situation where $TT(h)$ is below $HH(h)$, the government sets a lower tax rate than what entrepreneurs are willing to tolerate, and therefore entrepreneurs respond by increasing their supply of productive work. Conversely, whenever $TT(h)$ is above $HH(h)$, the tax rate is higher than what entrepreneurs will tolerate, causing rent seeking to increase.

Therefore interior equilibria are stable if and only if

$$\frac{\partial HH}{\partial h}(h^*) < \frac{\partial TT}{\partial h}(h^*) \quad (10)$$

Condition 10 requires that $TT(h)$ cross $HH(h)$ from below at (h^*, τ^*) . If the curves are tangent, or if $TT(h)$ crosses $HH(h)$ from above, the resulting equilibrium is unstable, as a small change in the parameters would cause the economy to move or jump towards another equilibrium rather than return to the original one.

Figure 5 illustrates an interior stable equilibrium and a no-rent-seeking (stable) equilibrium.

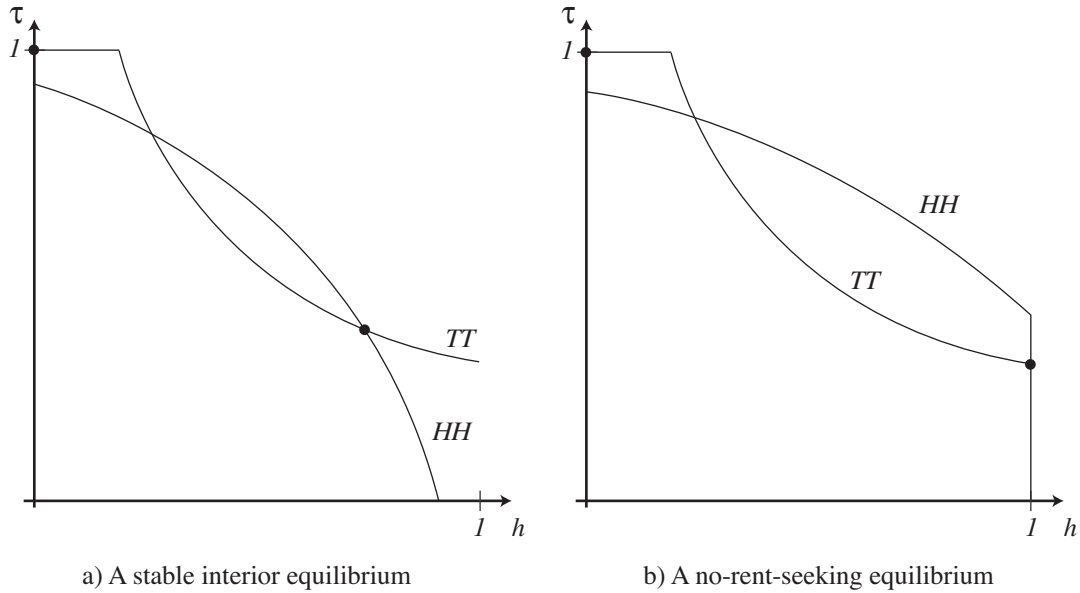
Panel b illustrates how, if $HH(h)$ has a vertical portion (i.e. if $\bar{h} > 1$) and $TT(1) < 1 - [A/f'(1)]$,

then $(h, \tau) = (1, TT(1))$ is also a stable equilibrium, featuring no rent seeking.⁴⁴ Finally,

$(h, \tau) = (0, 1)$, where production is taxed at a 100% rate and all skilled labor is engaged in rent seeking, is always a stable equilibrium. Note that in each case there is also an unstable equilibrium where $TT(h)$ crosses $HH(h)$ from above; stable equilibria are marked with black dots.

⁴⁴ If $TT(1) = 1 - [A/f'(1)]$ and $\lim_{h \rightarrow 1^-} \partial(HH - TT)/\partial h < 0$, then $(1, TT(1))$ would also be a stable equilibrium.

Figure 5: Stable equilibria when $HH(h)$ and $TT(h)$ cross



If $HH(h)$ and $TT(h)$ do not cross, $TT(h)$ will lay entirely above $HH(h)$ (except, perhaps, for a point of tangency) and the only stable equilibrium will be $(h, \tau) = (0, 1)$, where all the available land is entailed by rent seekers and production of manufactured goods is zero.

Comparative statics: an increase in $R - S$

The term $R - S$ represents the demands on the government finances net of natural resource rents. $R - S$ can increase because the cost of maintaining imperial policy is exogenously increasing, or because natural resource income is falling short of expectations, both of which occurred after 1550.

$HH(h)$ is not affected by an increase in $R - S$, while, as equation 11 shows, $TT(h)$ moves up and to the right.

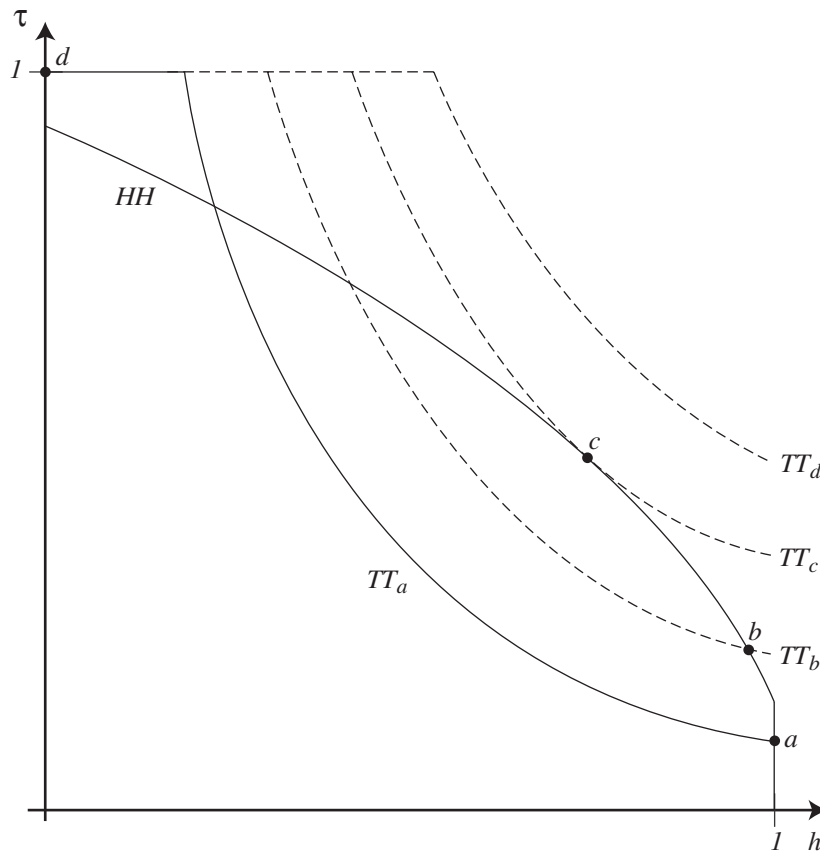
$$\frac{\partial TT(h; R-S)}{\partial(R-S)} = \frac{1}{f(h) + hA} > 0 \quad \forall h > \underline{h} \quad (11)$$

Recall that \underline{h} , the value of h at which $TT(h)$ shows a kink, satisfies $R - S = f(\underline{h}) + \underline{h}A$.

Therefore, when $R - S$ increases, \underline{h} must also increase.

Figure 6 illustrates the effects of an increase in $R - S$ by starting from a stable no-rent-seeking equilibrium and progressively increasing $R - S$. The successive $TT(h)$ curves are labeled in alphabetical progression, and each equilibrium is labeled with the letter of the $TT(h)$ curve associated with it.

Figure 6: A progressive increase in $R - S$



As $R - S$ increases and $TT(h)$ moves upwards, the equilibrium tax rate also increases. For some curve between TT_a and TT_b , rent seeking enters the scene, as the level of h chosen by entrepreneurs becomes strictly less than one. Eventually, as $R - S$ becomes large enough, the economy reaches point c , where $TT(h)$ is tangent to $HH(h)$. Point c is an unstable equilibrium. It takes only the slightest additional increase in $R - S$ for the economy to jump to point d , the full taxation, full rent seeking equilibrium.

The experiment illustrated in Figure 6 yields two important insights. First, the level of rent seeking will not increase continuously in the face of an increase in the fiscal demands of the government. It will rather rise gradually until a threshold (point c in the figure), after which it will directly jump to its maximum.⁴⁵ Such a behavior is consistent with the observed progression of rent seeking in the Spanish economy; while privileges, tax exemptions and monopolies had always existed, they experienced an unprecedented increase in a very short period towards the end of the sixteenth century, precisely when the Crown was struggling to finance its floundering military commitments in Europe.

The second insight, and perhaps the most crucial, is that once the economy has reached the full rent seeking equilibrium, a reduction in the fiscal target of the government, no matter how big, will not result in reduced taxation or rent seeking without external intervention. The point $(h, \tau) = (0, 1)$ is a stable equilibrium for all positive values of $R - S$. In the neighborhood of $(h, \tau) = (0, 1)$ the $TT(h)$ curve is always above $HH(h)$, and so the government always wants to set taxes higher than what entrepreneurs are willing to tolerate, keeping the economy at the full rent-seeking equilibrium.

⁴⁵ In an extreme case, if $TT(h)$ is steep enough or $HH(h)$ flat enough at $h = 1$, rent seeking could jump directly from one to zero.

Comparative statics: an increase in A

The privatization of land formerly held as commons by the cities increased the total taxable wealth, but also made it easier for would-be nobles to acquire entails. When the value of land subject to entail or, more generally, of property subject to rent seeking, increases, both the government and the entrepreneurs' reaction functions are affected. As the value of taxable resources rises, the government can afford to set lower tax rates for each level of rent seeking. But since now more resources can be entailed, the opportunity cost of entrepreneurship rises as well, and rent seeking becomes more attractive. Equations 12 and 13 formalize these observations.

$$\frac{\partial TT(h;A)}{\partial A} = -\frac{(R-S)h}{[f(h)+hA]^2} < 0 \quad \forall h > \underline{h} \quad (12)$$

$$\frac{\partial HH(h;A)}{\partial A} = -\frac{1}{f'(h)} < 0 \quad \forall h \in [0, \min(\bar{h}, 1)] \quad (13)$$

Equation 12 and 13 show that both $TT(h)$ and $HH(h)$ respond to an increase in A by moving closer to the origin. While these conditions alone are not enough to determine what happens to rent seeking, lemma 3 in the appendix shows that, when starting from an interior equilibrium, the equilibrium value of h decreases whenever A increases. The effect on tax rates is ambiguous.

Figure 7: An increase in A

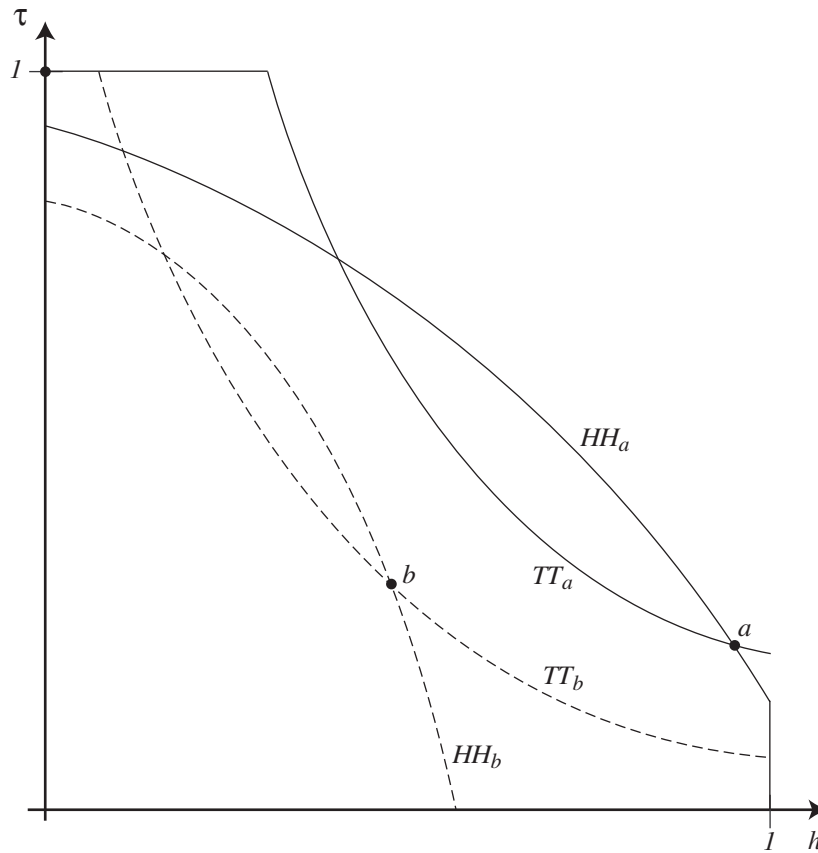


Figure 7 illustrates the effects of an increase in the value of property subject to entail when the initial situation is a stable interior equilibrium. Clearly, the same results would apply had the economy started from a situation without rent seeking. If the value of A continued to increase, eventually $TT(h)$ would rest entirely above $HH(h)$ and the economy would jump to a full rent seeking equilibrium. The easiest way of illustrating that result is by noticing that if A increased by an amount sufficient to make it equal to $f'(0)$, the $HH(h)$ curve would become identical to the vertical axis between zero and one, and therefore the only stable equilibrium would be $(h, \tau) = (0, 1)$.

Imperial policy revisited

The government retains the ability to stop its wars and reduce its expenditure level to \underline{R} at all times, but as long as it remains able to meet its budget constraint, it has no reason to do so. Since both increases in A and in $R - S$ imply a succession of interior equilibria followed by a sudden jump to $(h, \tau) = (0, 1)$, it is only after jumping to the full rent-seeking equilibrium that the government would consider reducing expenditures. Even in bankruptcy, it is not clear that the government would choose to do so. Assume that making peace would restore the government's ability to balance the budget; since in bankruptcy the tax rate equals one and tax revenues equal zero, equation 6 implies that \underline{R} would be an optimal choice only if $V(\bar{R}) - V(\underline{R}) < \bar{R} - S$. If the cost of abandoning the imperial pursuits were higher than the cost of bankruptcy, the government might well choose to continue its wars. Historians have repeatedly argued that the Habsburg monarchs were intensely concerned with preserving their *reputación*, a chivalrous idea of honor that would have suffered irreparable damage had they backed off. And if the argument that every part of the Habsburg territories was vital to the integrity of the rest were true, abandoning military operations in one theatre might have caused the demise of the whole empire, a cost higher than any king would have been prepared to pay. The Spanish crown experienced an astonishing series of bankruptcies, defaulting on different financial obligations in 1556, 1575, 1579, 1607, 1627, 1647, and 1656. It would nonetheless be the year 1648 before the Spanish Habsburgs definitely renounced all their imperial ambitions in Europe at the Peace of Westphalia.

Lock-in and long-term backwardness

As long as the economy is at an interior equilibrium the government's optimal policy remains to choose \bar{R} , and with it the pursuit of empire. Once the economy jumps to the full rent-seeking equilibrium, reverting to \underline{R} might under some conditions ease the government's disutility, but it would not help the economy out of its plight. The full rent-seeking equilibrium is always stable; small changes in the parameters of the model would not prompt the economy to drift towards a different situation. And even if \underline{R} were low enough for the economy to exhibit an interior stable equilibrium where entrepreneurs would actually be better off than in the full rent-seeking situation, it still would take a large coordination effort to convince enough of them to move to productive activities so that the government could afford to start lowering tax rates. Since entailed land could not be fractioned and sold off gradually, landowners would have had to sell all their land at the same time and take a plunge into commercial ventures, which ran the risk of being taxed at 100% if others didn't follow suit. If one adds the likely loss of commercial skills of entrepreneurs-turned-nobles and the possible social stigma of losing noble status, a return to an equilibrium with production seems an almost impossible feat. Spain might have found itself in such a situation even long after the fiscal needs that drove it to a bad equilibrium disappeared. Several attempts at reform, among which most noteworthy were those of the Count-Duke of Olivares in the seventeenth century and of Charles III and Campomanes in the eighteenth, could do little against the established privileges of *hidalgos* and the clergy. It would be the nineteenth century before disentailment policies would decisively revoke tax exemptions and free up the land that had been held back for so long.

6. Conclusion

The policies of Charles V and Philip II were the source of the institutional and economic woes that would haunt Spain long after their deaths. The absolute power of the monarchy, cemented in place by the outcome of the *comuneros* revolt, gave the Crown a free hand in using the resources of the kingdom to pursue imperial dreams in every corner of the world. The windfall of gold and silver from their American colonies, combined with exaggerated expectations about the future stream of revenue, allowed the Habsburg kings to run into unprecedented amounts of debt, while the military and dynastic endeavors they undertook with those resources failed to pay off every time. The path of least resistance they followed to fund their imperial policies took them to first weaken the property rights of private entrepreneurs, then auction off public lands and tax exemptions, and, only as a last resort, increase the fiscal pressure. Such a sequence, combined with the institution of tax-exempt land entails, encouraged the middle classes to flock into the lower nobility and abandon productive enterprise; the loss of their commercial and manufacturing skills and the indivisibility of their land entails would ensure that Spain remained locked into a high rent-seeking equilibrium even after her European empire definitely collapsed in the Thirty Years War.

The War of Spanish Succession, fought between France, England, Austria and the Netherlands to divide the spoils of an empire that no longer served the interests of the great powers ended with the recognition of Philip V of Bourbon as king. The presence of a scion of the ruling dynasty of its eternal enemy on the throne of Spain was a powerful image of the end of an era. The Bourbons did not feel the irresistible call of the Habsburgs to take part in every European conflict; their blood alliance with France allowed them to drastically cut military expenditures, liberating the treasury from its endless cycle of bankruptcies and freeing funds to undertake a

much needed overhaul of the state. The old privileges and interests, however, did not go easily, and many of the advances of Philip V and Charles III were undone by the reactionary stance of Charles IV and Ferdinand VII. But by the nineteenth century there was no turning back the clock for the old institutions, and one by one the *mayorazgo* and the ecclesiastical entails, together with other relics of the past such as the Inquisition and the Mesta, finally passed into history books. Spain was left to grapple with the deep divisions they had created, and its road to modernity was rocky to say the least. With gold and silver long gone, and its empire scattered into independent states or controlled by other powers, she could finally start to make the hard choices imposed by scarcity, four centuries and a half after missing her first chance.

APPENDIX

Lemma 1: Equation 3 is strictly decreasing and strictly concave in h .

Proof:
$$\frac{\partial \tau}{\partial h} = \frac{Af''(h)}{f'(h)^2} < 0.$$

$$\frac{\partial^2 \tau}{\partial h^2} = \frac{Af'''(h)f'(h)^2 - 2Af'(h)f''(h)^2}{f'(h)^4}.$$

Since, by one of the assumptions of the model, $f'''(h) < 2f''(h)^2/f'(h)$, it follows that $\frac{\partial^2 \tau}{\partial h^2} < 0$.

□

Lemma 2: Equation 7 is strictly decreasing and strictly convex in h .

Proof:
$$\frac{\partial \tau}{\partial h} = -\frac{(R-S)[f'(h)+A]}{[f(h)+hA]^2} < 0.$$

$$\frac{\partial^2 \tau}{\partial h^2} = \frac{(R-S)\{2[f(h)+hA][f'(h)+A]^2 - f''(h)[f(h)+hA]^2\}}{[f(h)+hA]^4} > 0. \quad \square$$

Lemma 3: Let (h^*, τ^*) be a stable, interior equilibrium, and let A^* be the associated value of A .

Then there exists a continuously differentiable function $h = g(A)$ defined on an interval I about (A^*, h^*) such that for all $\hat{A} \in I$, $(g(\hat{A}), \hat{A})$ satisfies $TT(g(\hat{A}); \hat{A}) = HH(g(\hat{A}); \hat{A})$ and $g'(A^*) < 0$.

Proof: Let $G(A, h) = TT(h; A) - HH(h; A)$. Therefore, $G = 0$ is the locus of all equilibria.

Since (h^*, τ^*) is an interior, stable equilibrium, by condition 10,

$$\begin{aligned} \frac{\partial G(A, h)}{\partial h}(A^*, h^*) &> 0 \\ \Rightarrow -\frac{(R-S)[f'(h^*) + A^*]}{[f(h^*) + h^* A^*]^2} - \frac{A^* f''(h^*)}{f'(h^*)^2} &> 0 \end{aligned}$$

Lets now calculate the derivative of $G(A, h)$ with respect to A :

$$\begin{aligned} \frac{\partial G(A, h)}{\partial A}(A^*, h^*) &= -\frac{(R-S)h^*}{[f(h^*) + h^* A^*]^2} + \frac{1}{f'(h^*)} \\ \frac{\partial G(A, h)}{\partial A}(A^*, h^*) &> 0 \Leftrightarrow \frac{(R-S)h^*}{[f(h^*) + h^* A^*]^2} < \frac{1}{f'(h^*)} \end{aligned}$$

Note that $\frac{\partial G(A, h)}{\partial A}(A^*, 0) > 0$. It then suffices to show that $\frac{\partial G^2(A, h)}{\partial A \partial h}(A^*, h) > 0$ for all $h \in [0, 1]$.

$$\begin{aligned} \frac{\partial G^2(A, h)}{\partial A \partial h}(A^*, h^*) &> 0 \Leftrightarrow \\ \Leftrightarrow -\frac{f''(h^*)}{f'(h^*)^2} &> \frac{(R-S)[f(h^*) + h^* A^*]^2 - 2h^*(R-S)[f(h^*) + h^* A^*][f'(h^*) + A^*]}{[f(h^*) + h^* A^*]^4} \end{aligned}$$

$$\Leftrightarrow -\frac{A^* f''(h^*)}{f'(h^*)^2} > \frac{A^*(R-S)\left\{\left[f(h^*)+h^*A^*\right]^2-2h^*\left[f(h^*)+h^*A^*\right]\left[f'(h^*)+A^*\right]\right\}}{\left[f(h^*)+h^*A^*\right]^4}$$

Since $\frac{\partial G(A,h)}{\partial h}(A^*,h^*) > 0$, we know that $-\frac{A^* f''(h^*)}{f'(h^*)^2} > \frac{(R-S)\left[f'(h^*)+A^*\right]}{\left[f(h^*)+h^*A^*\right]^2}$

Therefore, a sufficient condition for $\frac{\partial G(A,h)}{\partial A}(A^*,h^*) > 0$ is

$$\begin{aligned} & \frac{(R-S)\left[f'(h^*)+A^*\right]}{\left[f(h^*)+h^*A^*\right]^2} > \\ & > \frac{A^*(R-S)\left\{\left[f(h^*)+h^*A^*\right]^2-2h^*\left[f(h^*)+h^*A^*\right]\left[f'(h^*)+A^*\right]\right\}}{\left[f(h^*)+h^*A^*\right]^4} \\ & \Leftrightarrow f'(h^*)+A^* > \frac{A\left\{\left[f(h^*)+h^*A^*\right]^2-2h^*\left[f(h^*)+h^*A^*\right]\left[f'(h^*)+A^*\right]\right\}}{\left[f(h^*)+h^*A^*\right]^2} \\ & \Leftrightarrow f'(h^*)+A^* > A^* - \frac{2A^*h^*\left[f(h^*)+h^*A^*\right]\left[f'(h^*)+A^*\right]}{\left[f(h^*)+h^*A^*\right]^2} \\ & \Leftrightarrow f'(h^*) > -\frac{2A^*h^*\left[f(h^*)+h^*A^*\right]\left[f'(h^*)+A^*\right]}{\left[f(h^*)+h^*A^*\right]^2} \end{aligned}$$

Since the right-hand side is always negative, the last inequality is always true.

Therefore $\frac{\partial G(A,h)}{\partial A}(A^*,h^*) > 0$.

Since $G(A^*, h^*) = 0$ and $\frac{\partial G(A, h)}{\partial h}(A^*, h^*) \neq 0$, by the Implicit Function Theorem there exists a continuously differentiable function $h = g(A)$ defined on an interval I about (A^*, h^*) such that

i) $G(\hat{A}, g(\hat{A})) = 0$ for all $\hat{A} \in I$

ii) $g(A^*) = h^*$

iii) $g'(A^*) = -\frac{\frac{\partial G(A, h)}{\partial A}(A^*, h^*)}{\frac{\partial G(A, h)}{\partial h}(A^*, h^*)}$

From i) it follows that $TT(g(\hat{A}); \hat{A}) = HH(g(\hat{A}); \hat{A})$ for all $\hat{A} \in I$.

Since $\frac{\partial G(A, h)}{\partial A}(A^*, h^*) > 0$ and $\frac{\partial G(A, h)}{\partial h}(A^*, h^*) > 0$ from iii) it follows that $g'(A^*) < 0$. \square

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