

**Credit Intermediation in 18th century Prussia -
The Case of Landschaften**

Kirsten Wandschneider

August 2010

Prepared for the Economic History Association, Annual Meeting, September 2010

Preliminary – do not cite

Abstract:

The following paper studies the emergence of credit cooperatives, called ‘Landschaften’ in 18th century Prussia. Landschaften facilitated the refinancing of loans for Prussian estates by issuing covered bonds (Pfandbriefe) that were jointly backed by their members. They relied on a cooperative structure, joint liability, and local administration to overcome the problems of asymmetric information and moral hazard related to lending. This paper studies the design and operation of the Landschaften in detail and, based on microeconomic data for several different Landschaften, analyzes their effects on access and cost of credit for Prussian estates.

Introduction

The financial history of Germany has frequently been studied. Traditionally, the focus has been on the development of the large universal style credit banks and their role in the German industrialization.¹ More recently, however, researchers have focused on a broader array of financial institutions and have painted a more nuanced picture of the different German financial intermediaries. Large credit banks were supported by a network of financial markets and specialized financial institutions, each focusing on different segments of the market (Guinnane, 2002). Moreover, banks coexisted with and were supported by financial markets (Fohlin, 2007). The following study sheds light on a special kind of non-bank financial intermediary, the Prussian *Landschaften*, which emerged at the end of the 18th century.

Landschaften were credit associations, serving the noble estates of a region. They were launched by King Frederick II (Frederick the Great) in 1770, in order to support the Prussian landed gentry, the Junkers, following the Seven Years War (1756-63). *Landschaften* were cooperatives of borrowers, consisting of the noble estates of a region and as such facilitated the refinancing of loans to their members. They issued covered bonds (*Pfandbriefe*) that were backed by the *Landschaft's* member estates. *Landschaften* were public institutions that did not have a profit motive and except for reserve funds did not hold their own capital.

The first of these *Landschaften* was the 'Silesian *Landschaft*' founded in 1770. Within quick succession other provinces followed suit. By 1790, five *Landschaften* had been created in different regions of Prussia: the Kur-und Neumärkische Ritterschaftliche Kreditinstitut (1777), the *Landschaft* of Pomerania (1781), the *Landschaft* of West-Prussia in Marienwerder (1787), and the *Landschaft* of East Prussia in Königsberg (1788) (Hecht, 1908, p. 10). These so-called 'old' *Landschaften* form the basis of this study.

¹ Compare for example Burhop (2006) and Gerschenkron (1962).

However, throughout the 19th century the Landschafts-concept spread to other regions of the German Reich.²

From today's perspective, the study of Landschaften is relevant for a number of reasons. First, Landschaften constitute a unique example of a non-bank financial institution taking on the role of a delegated monitor.³ They were successful in recapitalizing the impoverished Prussian estates and provided credit and liquidity while using minimal resources. Their structure and design helped them overcome the challenges of moral hazard and asymmetric information and anticipated many features that can be observed in other financial institutions, for example the German credit cooperatives of the mid 19th century or today's microfinance institutions.

Second, Landschaften provide an early predecessor for formalized mortgage banking in Germany by showing that safe bonds could be based on land (Frederiksen, 1894). While mortgage credit had been an important element in European finance since the Middle Ages⁴, Landschaften institutionalized its existence in Prussia. By issuing covered bearer bonds in order to raise capital, Landschaften designed the 'Pfandbrief' and with it established an asset class of mortgage-backed securities that has remained popular to this day. The German Pfandbrief-market is the largest individual bond market in Europe and Pfandbriefe have also gained popularity in other European countries (Mastroeni, 2001). Even in the 2007/2008 financial crisis, Pfandbriefe remained relatively stable, especially in contrast to other mortgage backed securities. Landschaften also persisted well into the 20th century and remnants of the old Landschaften today are now part of a variety of German Pfandbrief-issuing banks, such as the Eurohypo AG, WL Bank AG and the Landesbank Hessen Thüringen.

² Other examples of Landschaften established outside of Prussia were the Ritterschaftliches Kreditinstitut des Fürstentums Lüneburg in Celle (1766/1790), the Hamburgische Landschaft (1782), the Landschaft of Schleswig-Holstein (1811), Mecklenburg (1818 and 1840), Posen (1822), Würtemberg (1825), Calenberg, Grubenhagen and Hildesheim (1825), Bremen und Verden (1826), and the Hannoversche Landes Kreditanstalt (1840) (Frederiksen, 1894).

³ Compare Stiglitz (1990).

⁴ Compare Hofman, Postel-Vinay and Rosenthal (2009).

Third, by connecting the landholding Junker class to the financial market in Berlin, Landschaften supported the existing social structure of Prussia, known for its hierarchical order and extreme inequality in land distribution. However, as Landschaften were extended to include farmers and non-noble landholders in the mid 19th century, they expanded credit access and eased the transition from peasant to serfdom proprietorship (Frederiksen, 1894). Landschaften thus played an important role in the economic, political, and social development of Prussia and later the German Reich.⁵

In the following, this paper will focus on the common operational features of the Landschaften and demonstrate how they served as financial intermediaries. I will also briefly outline their role and function for the Prussian economy. However, this line of research will be extended in future work beyond the scope of this paper.

Economic Conditions in Prussia and the Creation of the Landschaften

Prior to 1848 Prussia was an absolute monarchy, ruled by the king and supported by the landed aristocracy, the Junkers, and the bureaucracy. Prussian society was strictly organized in a feudal class system and the representatives of these classes, especially the Junkers, controlled local affairs through manorial courts and police powers. They also organized economic activity and while they showed little interest in furthering industry, they were obviously concerned with the status of agriculture and their estates.

At the end of the Seven Years War in 1763, Prussia emerged as a regional power. However, economic conditions were bleak. The war had disrupted trade and economic activity and especially the areas east of the river Elbe had suffered from having been the site of military operations and from enemy occupation. Farms were neglected and landowners, farmers and peasants were short on horses, cattle, sheep, fodder and seed (Henderson, 1962). To restore agricultural production, landowners and farmers were in need of long-term credits at affordable rates.

⁵ Compare Gerschenkron (1946) and Ziblatt (2008) regarding the role of the Prussian Junker class for German economics and political development.

Before the war, landowners had relied on private credit intermediaries who offered a loan at 6% interest plus ½ to 1% commission, implying that credit had been available at 6-8% interest. Loans were usually granted up to half of the last sale price of the estate. However, this credit limit had been raised during the war, contributing to the high indebtedness of the manors (Mauer, p. 19). In addition, mortgage rates for the safest mortgage loans had climbed to 10% and the commission had widened to 2-3%, substantially increasing the cost of credit (Frederiksen, 1894). The agricultural crisis coincided with the financial depression and general credit crunch in the crisis of 1773. The high pre-war debt ratios, as well as the severe shortage and the high cost of credit that had set in with the crisis, made it difficult for the Junkers to raise new funds.

At the end of the war, speculative trading activities that had been profitable in wartime came under pressure, leading to bank failures, especially of the bank houses Arend, Joseph and de Neufville (Kindleberger, 1993). The financial crisis was transmitted through bills of exchange from Amsterdam via Hamburg to Berlin. In Berlin, Friedrich II had tried to halt the crisis through the refusal of Wechselstrenge (holder in due course) and bailouts. However, both measures only heightened the risk perception of foreign creditors and contributed to the credit crunch (Schnabel and Shin, 2004). In addition, wartime inflation was met by post-war deflation. In the Mint edict of March 1764, the price of the thaler was set at 19.75 to the mark, effectively 40% below the pre-war rate. In 1765, Friedrich II passed a three-year general moratorium on all debts, but this was insufficient to restore the estates and it did not relieve the overall shortage of capital. At the end of the moratorium in 1768, many estates went into foreclosure.

Landschaften were created in this vacuum of agricultural credit. The foundation for the formal use of land as collateral for loans had already been laid with the 1722 bankruptcy law which stipulated the publication of the cadastral register and set a ranking for debts backed by the estate (Jessen, p. 36). Nevertheless, given the collapse of the credit markets, the already high debt ratios, and the physical destruction from the war, land as collateral did not suffice and landowners were not able to obtain individual loans.

The design of the Landschaften goes back to a proposal made by a Berlin merchant named Diederich Ernst Bühring in 1767. Bühring had spent the early years of his career

in Amsterdam, gaining experience with trading bills of exchange that were used to finance economic activities in the Dutch colonies. Growing up in Bremen, Germany, he was also acquainted with Bremer 'Handfeste-Urkunden', bearer bonds that were backed with a claim on real estate belonging to the debtor (Jessen, p. 40-41).

Bühring's plan combined his ideas of these various financial instruments and stipulated the creation of a general mortgage institute, the 'General Landschaftskasse,' for all of Prussia that would hypothecate all of Prussia's noble estates. This General Landschaftskasse would issue bearer bonds at 4% and would guarantee the convertibility and punctual payment of interest rates. Estate holders would elect to be part of this mortgage bank and would pay 4.5 or 5% interest on their loans. The interest rate differential would be used for administrative funds and to assemble a reserve fund for emergencies.⁶

The plan was presented to king Friedrich II in February of 1767 who forwarded it to his ministry of finance, Etat-Minister von Hagen. Von Hagen rejected the plan in March of 1767 and it is not clear whether the blueprint as looked at again, when the first Landschaften were established. It is thus unclear to what extent Bühring's plan was actually used in the establishment of the first Landschaft. However the plan laid out the key details later to be implemented (Jessen, p. 38). Bühring is therefore oft-cited as the conceptual father of the Landschaften. Also, in 1777, after the first two Landschaften had already been established by the crown Bühring was credited with the original concept of the Landschaftskassen (Jessen, p. 44).

In 1768, Johann Heinrich Casimir von Cramer who had become the new finance minister and minister of justice designed a credit system to alleviate the noble estates from shortage of credit. Similarly to the original plan, he suggested a Landschaft for all of Prussia, but stipulated that all noble estates would be mandatory members of this new organization. The Landschaft would then issue covered bonds up to half the value of all estates and guarantee the interest payments as well as the principal, backing the

⁶ Compare Bühring's Plan, cited in Maurer (1907, p. 190-95).

Pfandbriefe with the joint liability of all estates. Furthermore, Pfandbriefe should circulate as quasi-money to alleviate the general shortage of credit.

Based on von Cramer's ideas king Friedrich II passed a cabinet order to found the first of the Landschaften, the Silesian Landschaft in August of 1769. In the summer of 1770 the statutes of the Silesian Landschaft were ratified by the general assembly of the Silesian feudal class and in December of 1770 the first Pfandbriefe were issued. (Jessen, p. 47)

The creation of the Silesian Landschaft took up important elements of Bühring's as well as Cramer's original plans, but also differed in some key aspects. As von Cramer had suggested, the noble estates of Silesia were joined in a mandatory credit cooperative and would jointly back all bearer bonds (Pfandbriefe) that would be issued by the Landschaft. The key concept of the Pfandbrief however went back to Bühring's original plan, with the Landschaft guaranteeing the interest payments as well as the convertibility. Lenders could therefore rely on the Landschaft rather than on individual borrowers for their payments. This intermediary function, providing a guarantee for the lenders and liquidity of the borrowers was the key function of the Landschaft. The key features of the Landschafts-credit for landholders were that it was long-term and affordable, so landholders were insured against low and variable returns. In addition, loans could not be called-in by the lender. This provided additional stability and security for the debtors. An example of a Pfandbrief issued by the Silesian Landschaft on June 24th, 1774 can be seen in Figure 1.

The picture shows a privileged Pfandbrief over 30 Reichssthaler Courant, at 14 Reichsthaler per mark fine silver. It is made out for the estate named 'Jaschkowitz' which is in the district of Toste in Upper Silesia and it is backed by all combined estates in Upper Silesia. Interest was payable in cash in Cosel or Breslau and the receipts of the bi-annual interest payments were stamped on the Pfandbrief. Interest payments were carried out through 1923 (noted on the back) and in 1929 this Pfandbrief was stamped worthless and exchanged for a new gold Pfandbrief.

To overcome the problems of moral hazard and asymmetric information related to lending, the Landschaft relied on special features in its organization and structure. These will be described in the next section.

Figure 1: An Example of a Pfandbrief



The Design of the Landschaften

In its structure, the Landschaften built on the history of earlier financial functions of Prussian feudal organizations, which had provided banking services to its members. However, most of these old credit banks had been shut down by a decree of the king in 1717. Only the ‘Kreditwerk der Churmärkischen Landschaft’ had survived as the last of these old credit banks. It functioned as the credit institute for the Prussian upper class and remained in operation until 1820, issuing bonds that were traded on the exchanges of Berlin and Vienna (Jessen, p. 48).

To obtain a loan, a landholder and member of the Landschaft would place a request. Then the local tax commissioner, who was also a member of the Landschaft, would assess the value of the estate and determine a credit limit that was either based on the net profit of the estate or its last sale price. After the credit was granted, the Pfandbriefe were handed to the estate holder the following Christmas or Johanni (Saint John the Baptist, June 24th). Estate holders could then present these bonds to the Landschaft and ask to be paid in cash after a period of six months. Alternatively they could sell the bonds themselves in the open market. Bonds were initially issued at 4% and borrowers had to commit to paying bi-annual interest payments in cash plus an added ½-1% for administrative purposes and into the reserve fund.⁷

To raise funds, the Landschaft sold Pfandbriefe to other buyers, especially urban capitalists that were seeking investment opportunities. Pfandbriefe carried interest payments of 4.5% or 5% and were first sold at their nominal value. With rising popularity their initial sale prices demanded a premium of ¼ to ½% and it became easier for landholders to sell them directly to the market rather than cashing them in with the Landschaft. Figure 2 describes the transaction, assuming that the Landschaft was presented with the Pfandbrief, Figure 3 describes how borrowers could sell their Pfandbriefe directly to investors. In both cases the Landschaft remained responsible for coupon payments to the lender and the borrower made regular interest payments (twice a year) to the Landschaft.

With this design, the Landschaft assumed an important intermediary function between lenders and borrowers. It also reduced transaction costs by pooling loans and creating a standardized debt instrument. Issuing the Pfandbrief, two legal obligations were incurred that provided the borrower with additional security (Mauer, p. 3-4). First, the owner of the Pfandbrief held a claim against the estate to which the Pfandbrief was tied. This claim was a charge against the land on which the estate was situated, not against any private property or assets of the owner. Second, the Pfandbrief constituted a claim against the Landschaft, meaning that the Pfandbrief was backed by all liquid assets of the Landschaft

⁷ The 4% interest rate was adjusted later to 3.5%, then raised again. Over their lifespan, most Landschaften created different issues of bonds, all priced between 3.5% and 5%.

as well as all land of the member estates of the Landschaft, whether they had borrowed money or not.

Figure 2: Borrowing Intermediated by the Landschaft – Version 1

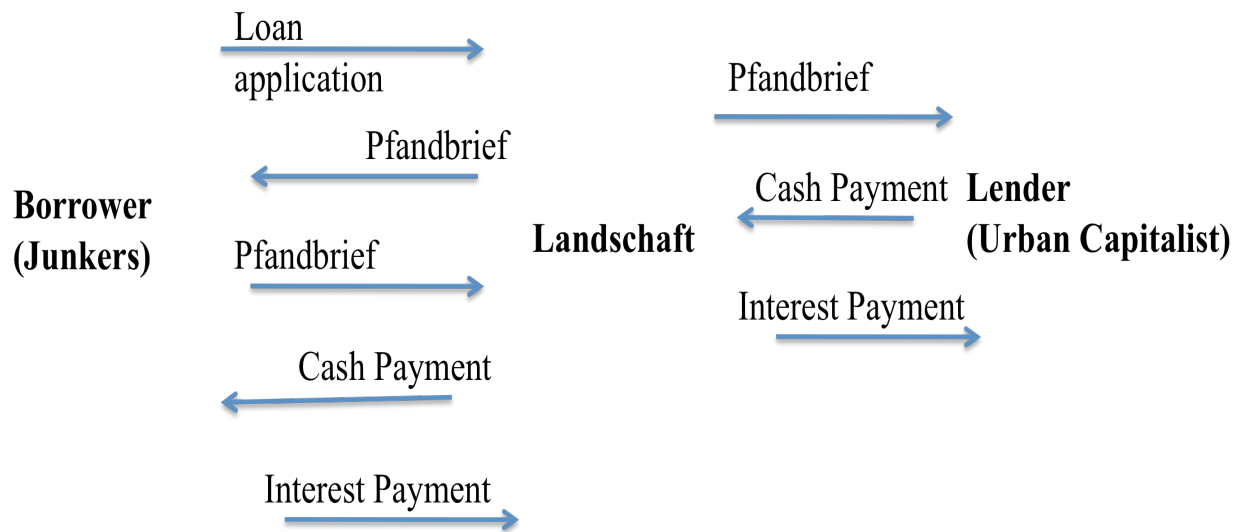
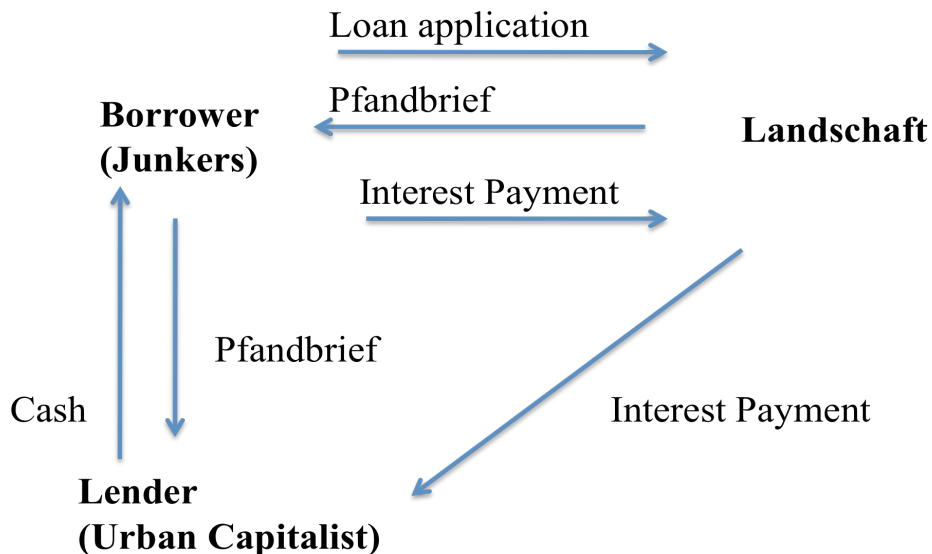


Figure 3: Borrowing Intermediated by the Landschaft – Version 2



The joint liability feature resembles group-lending contracts used in modern microfinance groups and the design of the credit cooperatives founded in the mid-19th century by Friedrich Raiffeisen and Hermann Schulze-Delitzsch.⁸ However, in contrast to the Raiffeisen organizations, the old *Landschaften* (except for the Kur-und Neumärkische Ritterschaftliche Credit Institute) were mandatory organizations, meaning that all noble estates located within a geographic region were members. *Landschaften* were also relatively large institutions, so that local monitoring and close social ties could not optimally guarantee the security of the loans. But all member estates of the *Landschaft* represented a specific social class, making the group fairly homogeneous and conscious of social stigma. Moreover, forced membership circumvented a negative selection bias where only estates that were in dire need of credit would opt to join the *Landschaft*. *Landschaften* were subdivided in smaller regional groups for administrative purposes, which allowed for the possibility of monitoring.

Key to the economic success of the *Landschaften* and to their long-run stability was the tax assessment of the individual estates, which determined the credit limit. Since all members of the *Landschaften* held a ‘right to credit’, the credit limit was the only screening device that was available. The assessment of the member estates prior to granting a loan followed two different mechanisms. Starting from the last sale price of the estate, the landholder could obtain a loan up to one quarter, one third or one half of this price, depending on when the sale had taken place. Alternatively, the net profit of the estate was assessed by a tax commissioner, and the estate holder could then obtain a loan of 15-20 times the assessed amount (Altrock, p. 25). *Pfandbriefe* were entered into the cadastral register of the estates and took precedence over all other outstanding debt. In cases where existing debt could not be extinguished prior to the *Landschafts* loan, the amount of capitalized debt was subtracted from the maximum loan value (Altrock, pp. 60/61).

⁸ A detailed discussion of the Raiffeisen credit cooperatives can be found in Guinnane (2001, 2002).

Landschaften relied heavily on local expertise and used local officers to inspect the estates and set the maximum loan amount.⁹ Landschaften were governed by the General-Landschaftsdirektion, headed by the Generallandschaftsdirektor (general director), elected for six years. Next to the director worked a corporate counsel, which also had judicial powers to be able to carry out the foreclosure if necessary. In addition, three Generallandschaftsräte with complete voting rights were part of the Landschaftsdirektion. These had to be estate holders in the Landschaft and be fully employed in agriculture. In contrast to the director and the counsel, which were employed by the Landschaft, all other positions were honorary. By using voluntary labor, Landschaften kept costs to a minimum.

The Landschaftsdirektion was equivalent to a board of directors and carried out the important decision-making and the day-to-day operations of the Landschaft. Members of the directorship were elected by a supervisory board, called Landschaftsausschuss that was designed to be representative of the membership of the Landschaft. It included 20-25 members, and met at least once a year to supervise the Landschaftsdirektion (Jessen, p. 119). Over time Landschaften supplemented the Landschaftsdirektion with additional tax and accounting committees that assisted with assessing the estates and supervising financial matters.

Landschaften also had the right to foreclose on estates that were in arrear with their payments, which provided them with an enforcement tool against defaulting estate holders. The foreclosure process provided a credible threat and was employed on a regular basis. Due to the relatively conservative loan amount of half the tax value of the estate, Landschaften were usually able to cover the amount of the loan with the sale price.

As alternative to collateral, Landschaften also built reserve funds that were to be used to cover unexpected operating costs or irregular losses. Reserve funds were never used as a source of loan funds, however they represented a form of forced saving that added a level

⁹ Landschaften also refrained from valuing life stock early on, as it was found that livestock was too variable and estate owners would 'borrow' life stock for the time of the assessment (Frederiksen, 1894).

of security to the Pfandbriefe. The capital accumulated by the Landschaften resulted from the interest differential paid by the borrowers, as well as capital injected by the crown. For the Silesian Landschaft, for example, king Friedrich II extended a loan of 200,000 Thalers at 2% interest (Frederiksen, 1894). However, not all Landschaften received this form of direct assistance. Moreover, the Landschaften seemed not to depend on these loans for their day-to-day operations. Over time, all Landschaften built sizable reserve funds, however, these assets were only used for emergencies and not to issue credit.

Landschaften varied in the extent to which the borrowers had to amortize their existing debt. While the Landschaften paid out the principal of the loans on demand, originally, the individual borrowers were only obliged to make regular interest payments to the Landschaft and the 'old' Landschaften did not carry provisions how the existing debt should be retired. Only over time did Landschaften introduce obligatory amortization schedules (Frederiksen, 1894). Between 1770 and 1777 borrowers could opt to retire their debt through bond payments as well as cash payments to the Landschaft. In 1777 the by-laws of the Silesian Landschaft stipulated that debts could only be extinguished with Pfandbriefe, which had the corresponding interest schedules. Only after 1785 cash payments were permitted again. The lack of amortization was seen as a structural weakness of the Landschaften and in the design of the subsequent Landschaften, for example Posen in 1818, provisions to pay off the debt were included from the start (Mauer, p. 168). For the 'old' Landschaften, however, estate holders resisted the amortization, especially during the agrarian crisis of the 1820s. But as economic conditions improved, the West and the East Prussian Landschaft began creating amortization funds to extinguish some of the existing Pfandbriefe. In 1832, the East Prussian Landschaft even raised the interest payments for the state holders by 1/6% (Mauer, p. 169). But in practice, these funds were nothing but expanded reserve funds for the Landschaft as they were never used to relieve the estates of their debt. Mandatory amortization by the estate holders was only introduced in the 1920s. (Jessen, p. 78).

Landschaften differed substantially from the later created mortgage banks (Hypothekenbanken).¹⁰ In contrast to the Landschaften, mortgage banks were private and not public institutions. Their customers were not ‘members’ of the bank. Also, Hypothekenbanken did not hold reserve funds and had no right to foreclose on debtors that were in arrear with their payments. The issued mortgage bonds however were very similar between both kinds of institutions.

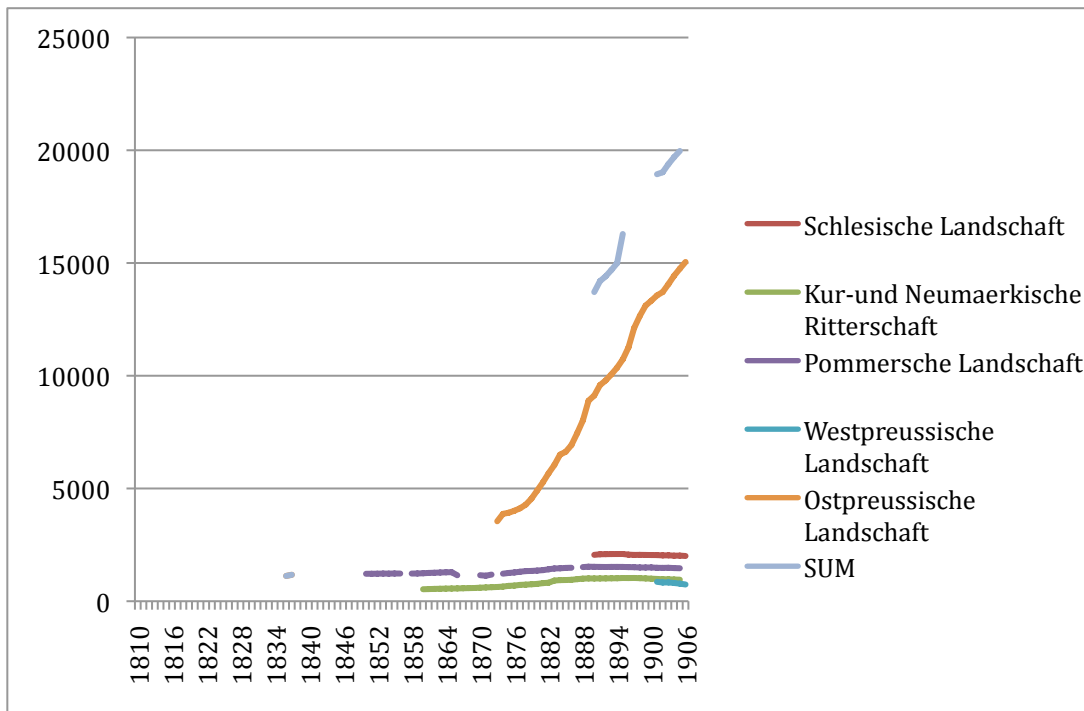
Economic Effects of the Landschaften

Contemporaries describe the Landschaften as successful in averting further liquidations of Junker estates and credit their creation with stabilizing economic conditions. For example, Friedrich II claims in his memoirs that the Silesian Landschaft saved 400 of the best families of the province from ruin (Frederiksen, 1894). In fact, Landschaften lowered the cost of credit for agricultural estates from about 8% before the Seven Years War to below 5%, and Pfandbriefe circulated widely soon after their issue. While in Silesia, interest rates in 1770 had been 6, 8 and 10%, rates averaged 4.66% in 1777 and 4% in 1787 (Jessen, p. 67). Pfandbriefe were deemed extremely safe investment choices, often at par with government securities. They also increased the value of the estates that could be used as collateral and brought a stabilization and eventual rise in the price of land. In 1770 the value of all noble estates in Silesia was estimated to be 60 million Reichsthaler, of which 22 million were registered debts. Already by 1790, the value of the estates had doubled and Pfandbriefe valued at 15 million Reichsthaler were circulating (Jessen, p.68).

The number of Landschaften, as well as the number of estates that borrowed through the Landschafts-system (Figure 5) rose steeply, especially from the mid 19th century onward. With it also the total amount of Pfandbriefe increased (Figure 6), emphasizing their popularity in financial markets.

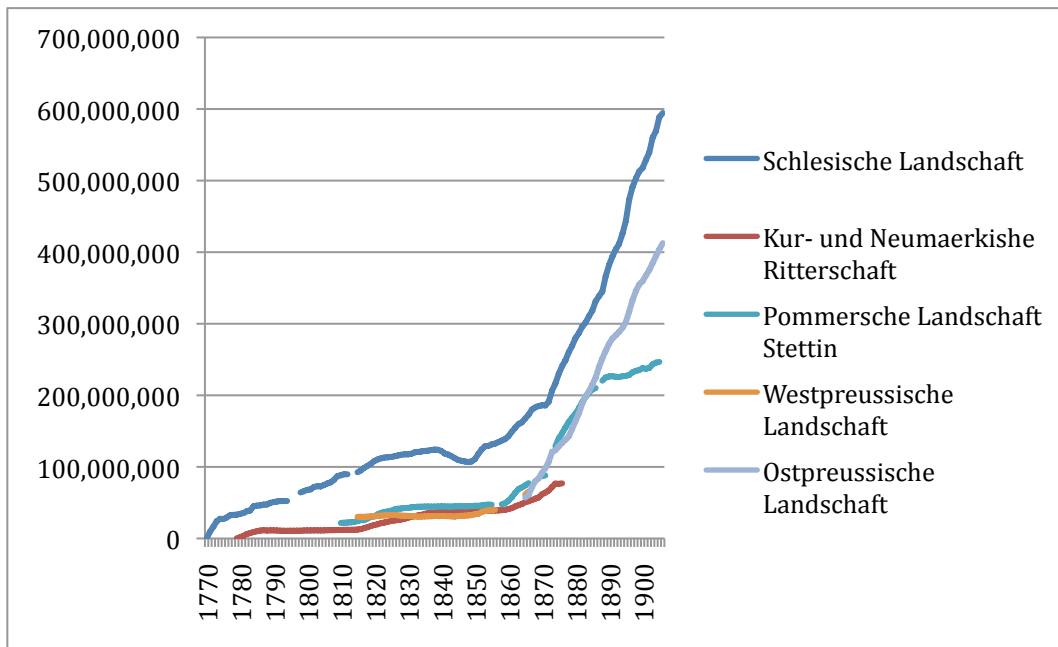
¹⁰ The first German mortgage bank was the Frankfurter Hypothekenbank (1862). The Bavarian Hypotheken und Wechselbank had been established in 1834, but obtained the right to issue mortgage bonds only in 1864 (Jessen, p.16).

Figure 5 – Number of Estates that had Issued Pfandbriefe



Source: Hecht (1908), Tableau der mit Pfandbriefen belegten Domänen (1817)

Figure 6: Stand der Pfandbriefe (total issues, in Mark)



Source: Hecht (1908)

This trend corresponded with the changes in regulations of the *Landschaften*. Over time, they expanded to include smaller estates and farms. In 1808 the East Prussian *Landschaft* was extended to include non-noble estates that belonged to the *Köllmer*, a group of free farmers. Likewise, forests belonging to the crown were incorporated starting in 1809 (Altrock, p. 17). Beginning in 1849, the East Prussian *Landschaft* included all estates of a minimum tax value of 1500 marks (Altrock, p. 108). The effect of the *Landschaften* for these smaller farms however remained limited. As can be seen in Table I, large estates took more advantage of the *Landschafts-credit* than smaller ones. Also, east of the Elbe, which included the regions in which the first five ‘old’ *Landschaften* had been founded, *Landschaften* were much more prominent than west of the Elbe.

In the second half of the 19th century the system of *Landschaften* solidified and expanded. Many *Landschaften* added additional financial services in the form of *Darlehnskassen* (savings and loan associations) and insurance companies (mostly fire and life insurance). In 1860 for example the East Prussian *Landschaft* added the *Landschaftliche Darlehnskasse*. Also, similar to the central organizations of the *Raiffeisen* credit cooperatives, the Central-*Landschaft* for the Prussian States was founded in 1873.¹¹ This central organization was a cooperation of twelve regional *Landschaften*. The Central-*Landschaft* issued unified Central-*Pfandbriefe*, which were thought to be more appealing to a wider group of buyers, however since the individual *Landschaften* still issued their own *Pfandbriefe* alongside the Central-*Pfandbriefe*, the Central-*Landschaft*’s success remained below expectations (Jessen, p. 92).

¹¹ Compare Guinnane (1997) on the *Raiffeisen* centrals.

Table I: The Ratio of Mortgaged Estates as Percentage of Total Estates by Estate Size (1905).

Landschaften	Size of Estates								
	5-20ha			20-100ha			Larger than 100ha		
	# of Estates	Mortg aged Estates	Ratio	# of Estates	Mortg aged Estates	Ratio	# of Estates	Mortg aged Estates	Ratio
Silesian	80326	6447	8.0	16477	5583	33.9	2750	2327	84.6
East Prussian	38021	2377	6.3	25879	9418	36.4	3400	2953	86.9
N. West Prussian	27378	3160	11.5	13715	4547	33.2	2000	1110	55.5 ¹²
Posener	41125	2384	5.8	12658	2637	20.8	2020	1618	80.1
Branden. Kredit Inst.	41500	3591	8.7	23500	5694	24.2	2100	1430	68.1
Pomerania	30116	239	0.8	11973	725	6.1	2500	1604	64.2
East of the Elbe	258466	18198	7.0	104202	28604	27.5	14770	11042	74.8
Saxonia	42357	787	1.9	16477	925	5.6	1610	348	21.6
Westfalia	37746	1458	3.9	11836	1908	16.1	303	204	67.3
Schleswig-Holstein	22997	554	2.4	21586	1352	6.3	1091	198	18.1
West of the Elbe	103100	2799	2.7	49899	4185	8.4	3004	750	25.0
Prussia	361566	20997	5.8	154101	32789	21.3	17774	11972	66.3

Source: Altrock (1914)

¹² In West Prussia many estates had issued Pfandbriefe belonging to the Zentrallandschaft.

Issuing Pfandbriefe also had a direct effect on land prices and the sales and purchases of estates, as well as on the money supply. The founding of the Landschaften set off a speculative boom in real estate. Not unlike a Ponzi scheme, estate holders could take out Pfandbriefe for an existing estate and use the proceeds to buy more land, which could then again be assessed and used as collateral for new loans. Changes in ownership of estates were frequent between 1780 and 1806 and the noble estates were consolidated in the 1780s and 1790s (Mauer, p. 21). In 1789 the king passed a law for Silesia that limited the extent at which new estates could be purchased with Pfandbriefe, however this law was abolished again in 1791. As can be seen in Table II, the large number of estate transfers also continued through the end of the 19th century. About one third of these transactions is estimated to be due to inheritance, the remaining two thirds are sales or swaps.

Table II: Number of Estates Changing Hands in East Prussia

Estates Changing Hands (larger than 2ha)	
1896-1900	37843
1901-1905	40383
1906-1910	40301

Source: Altrock, p. 20.

Since Pfandbriefe were convertible into cash on demand at the Landschaft, they circulated as quasi-money and could be used directly by the estate holders as means of payment. Even though they were not legal tender, they were used as cash equivalent. This saved the transaction cost of converting them at the Landschaft. It also implied that the money supply was expanded by roughly the amount of Pfandbriefe issued.

Zöllner writes in his “Letters about Silesia” in 1793:

“Und im Grunde war es für die Provinz so gut, as wenn 14 Millionen Thaler bares Geld in dieselbe gekommen wäre, weil diese Summe in Pfandbriefen vorhanden

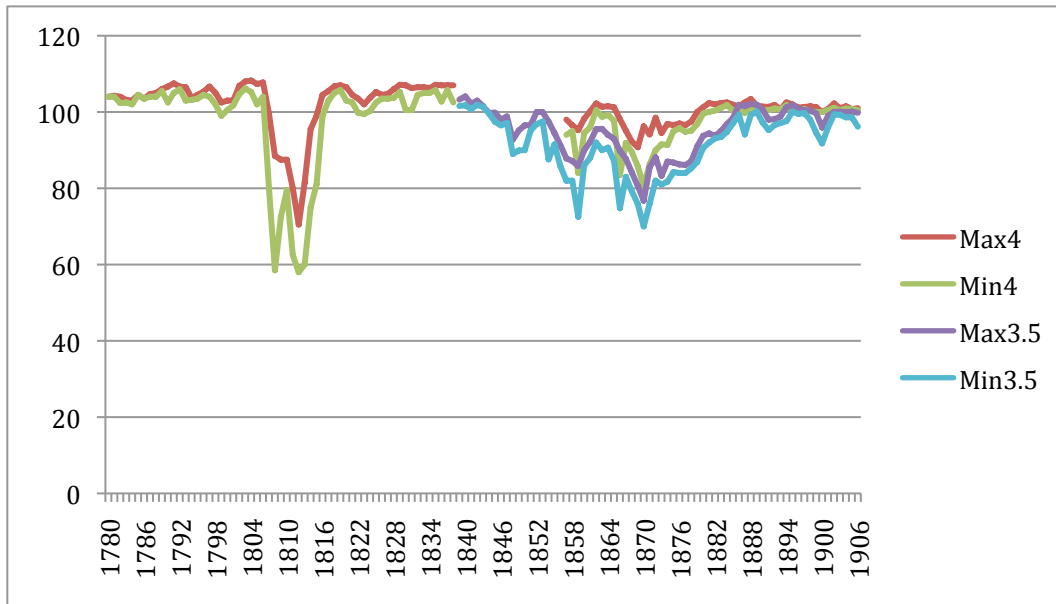
war, deren man sich zu allen Zahlungen eben so sicher und mit noch grösserer Bequemlichkeit als der Klingenden Münze bedienen konnte” (Zöllner, p. 399)

Translation: “In effect, it was as if 14 million Thaler in cash had entered the province, as this sum was available in Pfandbriefe, which could be used for all payments with the same security and even greater convenience as coins.”

In practice, Landschaften issued two different kinds of Pfandbriefe. First, Capitalsbriefe (capital bonds), which constituted 90% of the total share of all Pfandbriefe and second Realisationsbriefe (realized bonds, 10% of the total). Realisationsbriefe could be exchanged on demand at the Landschaft into Prussian Thaler. They were issued in denominations of 20-100 Thalers, while Capitalsbriefe were denominated up to 10,000 Thalers. For Capitalsbriefe, there was a six-months exchange period after which the Pfandbriefe could be cashed in (Jessen, p. 72). The Landschaft thus needed to hold reserves in the amount of all issued Realisationsbriefe, initially made available by the crown. At an exchange rate of 14 Thalers to a mark of fine silver, Pfandbriefe were directly tied to the monetary base, but backed by land rather than specie. Often borrowers could pay obligations directly with the acquired Pfandbriefe, without cashing them in at the Landschaft.

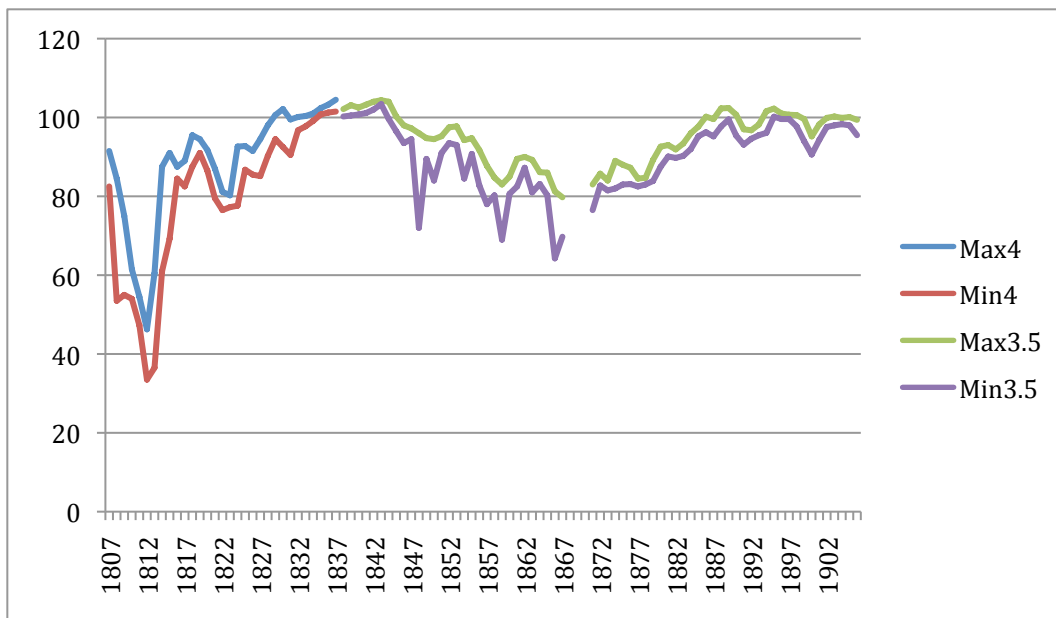
In the following, the development of the prices of the Pfandbriefe is shown on the example of the Silesian and the East Prussian Landschaft (Figures 3 and 4, respectively). The prices of the Pfandbriefe are indicative of major economic and political events of Prussia at the time, but their peacetime average stability also speak to the success of the Landschaften.

**Figure 3: Maximum and Minimum Prices of Pfandbriefe (4% and 3.5%)
Schlesische Landschaft Breslau**



Source: Hecht (1908)

**Figure 4: Maximum and Minimum Prices of Pfandbriefe (4% and 3.5%)
Ostpreussische Landschaft**



Source: Hecht (1908)

All Landschaften initially issued 4% Pfandbriefe, which were converted to 3.5% in the 1830s. From the 1830s forward, Landschaften issued a broader selection of Pfandbriefe with varying interest rates (3.5% - 5%) to compete with changing conditions in the credit markets. From then on, Landschaften also required borrowers to sell the Pfandbriefe directly and eliminated the rights of the Pfandbrief holders to present the bonds to the Landschaft on demand. In practice, however, this change had little effect since borrowers already preferred to directly monetize their debts.

The Pfandbriefe of the Silesian Landschaft traded above par from the outset and maintained a sizable premium until the beginning of the Napoleonic Wars. The Wars called into question agricultural productivity in Prussia. Moreover, after 1807, the Silesian Landschaft and the East Prussian Landschaft incorporated territories of the Prussian State as member estates. This allowed Prussia to request Pfandbriefe backed by these territories and thus raise funds to pay off war debts. Thus the Silesian Landschaft was actively used to expand the government budget and the fiscal debt with the Landschaft was not amortized until 1900. However, other Landschaften refused to accept State territories into their domain, thus assuring their independence from the Prussian State (Jessen, p. 74).

The years 1807-1815, which were the most volatile in terms of the price movements, were also years of agricultural reform for Prussia. Following the proposals by Karl August von Hardenberg and Heinrich Friedrich Karl Freiherr von Stein the old feudal system was abolished and farmers were liberated (Jessen, p. 84). As part of the reforms, noble estate holders were compensated for the loss of agricultural labor with part of the land that had belonged to farmers. This additional land again could be used as collateral for the issue of new Pfandbriefe (Mauer, p. 52). The Pfandbriefe recovered with the end of the War and remained above par until 1848 when the revolutions again called the German class system in question. Frequent Pfandbrief conversions also lowered their popularity in the 1860s. However, prices steadily recovered again after the German unification of 1871, trading close to par in the 1880s and 1890s.

The Pfandbrief prices of the East Prussian Landschaft exhibit a similar pattern. Prices fell during the Napoleonic wars, which stopped agricultural production and burdened East

Prussia with approximately 260 million marks in wartime costs (Altrock p. 110). Prices recovered after the war especially after 1816 when the unlimited issue of new Pfandbriefe was resumed. Prices registered a drop in 1823 when the borrowing limit was reduced from two thirds to one half of the tax value (Altrock, p. 110). Prices stabilized in the 1830s and 40s, falling only after the 1848 revolutions and the decision in 1849 to include the land possessions of regular farmers into the Landschaft.

During the 1860s, the Landschaften struggled to attract capital due to the rising need for credit in industry, especially railroads and mining (Altrock, p. 113). The situation improved after 1871 and Pfandbrief prices rose and stabilized until the end of the 19th century.

Conclusion

Landschaften were public non-profit institutions that by issuing Pfandbriefe, formalized the mortgage market in Prussia, beginning in the second half of the 18th century. Despite weaknesses in their design, such as the ‘right to credit’ for their member estates and the lack of amortization provisions, they were effective in lowering interest rates and providing credit to Prussian noble estates. They demonstrated how bonds could be safely backed with land and thus institutionalized mortgage lending in Prussia, serving as an early predecessor for credit cooperatives as well as private mortgage banks.

Landschaften assumed an important financial intermediary function connecting the landholding but cash-poor Junker class with credit sources in Berlin. They reduced transaction costs and relied on joint liability, local monitoring and forced membership to avoid problems of moral hazard and adverse selection.

In the future, I will look at their impact on the economic development of Prussia, collecting more detailed microdata on individual Landschaften to further quantify their economic effectiveness. Many questions, especially on the long-term economic effect of the Landschaften remain to be addressed.

References:

- Altrock, Walther v. (1914). *Der Landwirtschaftliche Kredit in Preussen, I. Die Ostpreussische Landschaft*. Verlagsbuchhandlung Paul Parey, Berlin.
- Burhop, Carsten (2006). "Did Banks Cause the German Industrialization?," *Explorations in Economic History*, Vol 43, pp. 39-63.
- Fohlin, Caroline (2007). *Finance Capitalism and Germany's Rise to Industrial Power*, Cambridge University Press, Cambridge, United Kingdom.
- Frederiksen, D. M. (1894). "Mortgage Banking in Germany" *The Quarterly Journal of Economics*, Vol. 9, No 1, pp. 47-76.
- Gerschenkron, Alexander (1946). *Bread and Democracy in Germany*, Cornell University Press, Ithaca, N.Y. (1989).
- Gerschenkron, Alexander (1962). *Economic Backwardness in Historical Perspective*. Harvard University Press, Cambridge, MA.
- Guinnane, Timothy (1997). "Regional Organizations in the German Cooperative Banking System in the late 19th Century." *Research in Economics*, Vol. 51, pp. 251-274.
- Guinnane, Timothy (2001). "Cooperatives as Information Machines: German Rural Credit Cooperatives, 1883-1914." *Journal of Economic History*, Vol. 61, No. 2, pp. 366-389.
- Guinnane, Timothy (2002), "Delegated Monitors, Large and Small: Germany's Banking System, 1800-1914" *Journal of Economic Literature*, Vol. 40, No. 1, pp. 73-124.
- Hecht, F. (1908). *Die Organisation des Bodenkredits in Deutschland*, Dritte Abteilung, Erster Band, von Duncker & Humbolt, Leipzig, Germany.
- Henderson, W. O. (1962). "The Berlin Commercial Crisis of 1763" *The Economic History Review*, New Series, Vol. 15, No. 1, pp. 89-102.
- Hoffman, Philip, Gilles Postel-Vinay and Jean-Laurent Rosenthal (2009). "History, Geography, and the Markets for Mortgage Loans in Nineteenth-Century France" in Dora Costa and Naomi Lamoreaux (eds.), *Understanding Long-Run Economic Growth: Essays in Honor of Kenneth L. Sokoloff*, NBER Publication, Cambridge, MA, forthcoming.
- Jessen, Hartwig (1962). *Das Landschaftliche Kreditwesen*, Gabler, Wiesbaden, Germany.
- Kindleberger, Charles P. (1993). *A Financial History of Western Europe*, 2nd Edition Oxford University Press, New York, Oxford.
- Mastroeni, O. (2001). "Pfandbrief-style Products in Europe" *BIS papers (5)*, Basel, Bank of International Settlements.

Mauer, Hermann (1907). *Das Landschaftliche Kreditwesen Preussens, Agrargeschichtlich und Volkswirtschaftlich Betrachtet*, Verlag Karl J. Trübner, Strassburg.

Schnabel, Isabel and Hyun Song Shin (2004). „Liquidity and Contagion: The Crisis of 1763,“ *Journal of the European Economic Association*, Vol. 2, No. 6, pp. 929-968.

Stiglitz, Joseph E. (1990). “Peer Monitoring in Credit Markets,” *World Bank Economic Review*, IV (1990), 351-66.

Tableau der mit Pfandbriefen belegten Domänen (1817). Staatsarchiv Potsdam, Pr. Br. Rep 23A Kurmärkische Stände C 2919.

Tilly, Richard (1966). “The Political Economy of Public Finance and the Industrialization of Prussia, 1815-1866” *The Journal of Economic History*, Vol. 26, No. 4, pp. 484-497.

Ziblatt, Daniel (2008). “Does Landholding Inequality Block Democratization? A Test of the “Bread and Democracy” Thesis and the Case of Prussia” *World Politics*, Vol. 60, No. 4, pp. 610-641.

Zöllner, Johann Friedrich (1793). *Briefe über Schlesien*, Maurer, Berlin.