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HOW DID INDIVIDUALS ARRANGE MORTGAGES IN NIJMEGEN
BETWEEN 1879 AND 1889?
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Ut gé zò aes ut gé en ut kum zò aes ut kum

Truus van der Donk

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Introduction

There have been various ways of arranging mortgages throughout history. In the eighteenth century, the Prussian king founded several cooperative mortgage associations to provide cheap mortgage credit for the Prussian nobility after the devastating Seven Years' War.¹ Meanwhile, French creditors and debtors often employed notaries to act as intermediaries between them as they controlled vital information about creditor, debtor and property until the French Revolution.² In the nineteenth century, hundreds of local building societies were established in Great Britain, which provided relatively inexpensive mortgages for their members.³ In the meantime, a mortgage crisis ruined various local mortgage providers in the USA in the 1890s, which created room for national life insurance companies on the mortgage market.⁴ These differences are caused by various factors: legislation, information, repayment terms and organization. None of this variation or complexity discussed in international mortgage historiography is present in current Dutch mortgage historiography. While the Dutch mortgage market has been studied, most studies focus exclusively on banks and pay little attention to other ways of arranging mortgages.⁵ Banks attracted most scholarship, because, for decades, industrialization was inseparably linked to the development of the modern banking system.⁶ In recent years scholarship challenged this connection, but, while international mortgage historiography incorporated this revaluation, Dutch mortgage historiography made little progression. Therefore, this thesis examines the Nijmegen mortgage market between 1879 and 1889, which serves as an in-depth analysis of the institutions, intermediaries and individuals active on the Dutch mortgage market in the nineteenth century. It is an attempt to bring Dutch mortgage historiography up to date with current international literature. Using the unique characteristics of the Dutch mortgage market like the slow development of banks, however, it also reflects on general conclusions from the international literature about the emergence, existence or disappearance of institutions, intermediaries and individuals.⁷

¹ K. Wandschneider, 'Lending to lemons: landschaft credit in eighteenth-century Prussia' *Housing and Mortgage Markets in Historical Perspective*, edited by E. White, K. Snowden and P. Fishback, University of Chicago Press, 2014, pp. 308-311.

² P. Hoffman, G. Postel-Vinay, and J. Rosenthal. *Priceless markets: the political economy of credit in Paris, 1660-1870*. University of Chicago Press, 2000, pp. 230-239.

³ L. Samy, 'Extending home ownership before the First World War: the case of the Co-operative Permanent Building Society, 1884-1913 1.' *The Economic History Review*, vol. 65, no. 1, 2012, pp. 168-193, 180-183.

⁴ K. Snowden, 'The Evolution of Interregional Mortgage Lending Channels, 1870-1940: The Life Insurance-Mortgage Company Connection' *Coordination and Information: Historical Perspectives on the Organization of Enterprise*, edited by N. Lamoreaux and D. Raff, University of Chicago Press, 1995, pp. 230-235.

⁵ C. Glasz. *Hypotheekbanken En Woningmarkt in Nederland*. De Erven F. Bohn, 1935, Voorbericht.

⁶ M. Wintle. *An economic and social history of the Netherlands, 1800-1920: demographic, economic and social transition*. Cambridge University Press, 2000, p. 96.

⁷ J. Jonker. 'The alternative road to modernity: banking and currency' *A financial history of the Netherlands*, edited by J. van Zanden, M. 't Hart, and J. Jonker, Cambridge University Press, 1997, pp. 116-117.

International literature

How did individuals arrange mortgages in Nijmegen between 1879 and 1889? To understand the significance of this question, it is important to contrast Dutch mortgage historiography with international mortgage historiography, because the comparison reveals a considerable deficiency in current Dutch mortgage historiography. While recent international mortgage historiography discusses numerous methods of arranging mortgages in various countries throughout history, Dutch mortgage historiography almost exclusively focuses on the position of banks in the mortgage market.⁸ While banks currently arrange most mortgages in the Netherlands, this is a recent development as banks were not even active on the Dutch mortgage market before 1860.⁹ After 1860, banks slowly obtained market share, but, up until World War II, one-third of Dutch mortgages were still arranged without the involvement of banks. Therefore, while the main question could sound insignificant, it aims to provide insight into a part of Dutch mortgage historiography that has been overlooked. Like the international mortgage historiography, it attempts to go beyond simply listing the institutions, intermediaries and individuals active on the mortgage market. After a detailed examination of the inner workings of various institutions, intermediaries and individuals, this thesis intends to understand why certain institutions, intermediaries and individuals emerged, existed or disappeared from the Dutch mortgage market.

While international literature about historical mortgage markets cannot provide detailed information about Dutch institutions, intermediaries and individuals, it can offer answers on which factors shape a mortgage market as Dutch mortgage historiography does not provide extensive answers on this question. Examining the largest non-bank institutions, intermediaries and individuals active on several international mortgage markets before the dominance of banks, this thesis observes four factors: repayment terms, legislation, information and organisation. These international factors serve as starting points for this research into the Dutch mortgage market. To start with the most obvious factor, the repayment terms offered by the various mortgage arrangers influence the development of a mortgage market. Debtors will prefer a long repayment period and a low interest rate to lower their monthly expenses, but creditors will prefer a short repayment period and a higher interest rate to increase their profits. In the 19th and 20th century, building societies became the biggest players on the British mortgage market due to relatively inexpensive mortgages.¹⁰ The first building societies were simply groups of people who pooled money together to fund inexpensive mortgages for each other. As there was never enough money to immediately provide everyone with a mortgage, there

⁸ Both statements are discussed in further detail below.

⁹ C. van Bochove and E. Hasken, 'The modernization of credit markets: How private lenders disappeared from the Dutch mortgage market, 1860-2000' Working Paper, Radboud University, 2018.

¹⁰ M. Boleat. *Building Society Industry*. Routledge, 2012, pp. 1-5

was always a waiting list.¹¹ However, every member was obligated to keep paying his or her membership fee until everyone had a mortgage. Thereafter, the building society was terminated. While these kinds of building societies existed far into the 20th century, another kind of building society emerged in the 19th century. These “permanent” building societies allowed for investment, which greatly expanded their available capital.¹² However, this capital was only made available to building societies in return for interest. Unlike normal members who received a mortgage in return for their membership fees, investors did not need or want a mortgage. Therefore, investors had to be paid interest on their investment. If this demand for interest is left unchecked, it could result in high interest rates and short repayment periods to satisfy the investors, which in turn results in very expensive mortgages. However, building societies were still controlled by their members, who were often borrowers. This does not mean that the demands of investors were completely ignored as they could stop funding mortgages. Their demand for high interest rates and short repayment periods was only restrained, which made mortgages from buildings societies relatively inexpensive compared to banks.¹³

Besides repayment terms, legislation also played an important part in the development of a mortgage market. With legislation, governments can simply prohibit certain creditors or debtors from entering the mortgage market, but, even in less extreme cases, it has the power to favour or hamper certain types of creditors or debtors with taxes or administrative requirements. While legislation also affected British building societies, it played a relatively minor role in their development when compared to the *Landschaften* (cooperative mortgage associations) in Germany.¹⁴ After the Seven Years’ War devastated Prussia, the Prussian nobility faced massive financial problems as most of their wealth was derived from the land. Consequently, interest rates increased for the Prussian nobility, which made their problems even worse. While the Prussian king tried to resolve these financial issues with a three-year moratorium on all debt, it was not enough time to recover from the war and it disincentivised creditors from arranging new loans in this three-year period. Therefore, following the advice from his minister of finance, the king instituted the first cooperative mortgage association in 1770. These cooperative mortgage associations were able to arrange inexpensive mortgages for the Prussian nobility. While there are several reasons for the relatively low interest rates, the main reason is the *Pfandbrief* (covered mortgage bond). Mortgages

¹¹ D. Goacher, et al. *British non-bank financial intermediaries*. Routledge, 2017, pp. 83-89.

¹² O. Butzbach. ‘From data problems to questions about sources: elements towards an institutional analysis of population-level organisational change. The case of British building societies, 1845–1980.’ *Business History*, vol. 60, no. 5, 2018, pp. 754-777, 760-762.

¹³ Samy, ‘Extending home ownership before the First World War’, pp. 180-183.

¹⁴ K. Wandschneider. ‘Landschaften as Credit Purveyors—The Example of East Prussia.’ *The Journal of Economic History*, vol. 75, no. 3, 2015, pp. 791-818, 793-798

are only covered by one specific person and his or her estate, but these bonds were covered by every member of the association and each of their estates. Legislation mandated that every Prussian aristocrat became a member of their local cooperative mortgage associations regardless of whether they needed or wanted a mortgage.¹⁵ This decreased the risks for investors immensely as prosperous aristocrats were forced to help their impoverished brethren. Without legislation mandating membership, there would have been fewer estates backing the bonds and especially fewer financially healthy estates, because they had already access to inexpensive credit or did not need credit. Therefore, investors were prepared to accept lower interest rates from the cooperative mortgage associations, which still exist in the present day although in an altered state.

Besides repayment terms and legislation, information transforms mortgage markets. Debtors and creditors must exchange a variety of information for risk assessment before signing a mortgage contract. For instance, a debtor must assure the creditor that he or she owns the intended collateral. In pre-revolutionary France, this exchange of information often required the involvement of notaries as they controlled access to vital information.¹⁶ Before the French Revolution, there was no publicly accessible organisation responsible for tracking ownership of property or property covered by a mortgage. Instead, the French government required that contracts related to property were drafted by a notary, who also needed to save a copy of every drafted contract in their private archives. Consequently, if a creditor wanted to know if potential collateral was unencumbered or whether a debtor wanted to prove ownership of his or her property, they needed a notary for definitive information. Combined with other kinds of information available to them as they also had access to personal financial information through other contracts drafted by them, French notaries became almost unavoidable intermediaries on the mortgage market. French law, however, prevented notaries from becoming fully-fledged banks as they were prohibited from taking deposits.¹⁷ Notaries were payed to connect creditors with potential debtors or debtors with potential creditors, which they could do more reliably than any other intermediary due to the information available to them. Their hold on the mortgage market was only shattered after the introduction the cadastre and the *hypothèque* (mortgage register), which made information about ownership and encumbered property publicly available.¹⁸ However, as a result of other information available to notaries and issues with the cadastre and the mortgage register, notaries did not immediately disappear from the

¹⁵ Wandschneider, 'Lending to lemons', pp. 311-317.

¹⁶ Hoffman, Postel-Vinay, and Rosenthal. *Priceless markets*, pp. 25-30.

¹⁷ P. Hoffman, G. Postel-Vinay, and J. Rosenthal. "Private credit markets in Paris, 1690–1840." *The journal of economic history*, vol. 52, no. 2, 1992, pp. 293-306, 294-297.

¹⁸ Hoffman, Postel-Vinay, and Rosenthal. *Priceless markets*, pp. 230-239.

French mortgage market. Far into the 19th century, notaries remained important on the French mortgage market.¹⁹

Without specifically mentioning the fourth factor, the three preceding factors have already hinted at the concept of organisation. While every mortgage provider arranges mortgages, there are various ways of arranging mortgages. For instance, the British building societies acquired funds from their members and investors, but the French notaries connected creditors with debtors without ever possessing the funds. Both ways result in a mortgage contract, but their funds have clearly different origins. Consequently, these organisational differences entail that they responded differently to changes in the mortgage market. In the United States, national life insurance companies carved out an important position on the mortgage market in the 19th century due to the differences in organisation between them and competitors. In the 1880s, there was a land boom in the west of the USA, which was funded by large amounts of capital from the east of the country.²⁰ In the 1890s, however, the land market collapsed, which immediately created a crisis on the mortgage market as people defaulted on their mortgage. Consequently, if it was not simply due a lack of business during the crisis, many mortgage providers went bankrupt, because they guaranteed investors that they would receive the principal and interest on any mortgage arranged by them. To save some of their investments, most investors immediately sold the property that covered the mortgage, because it was too expensive to maintain a property on the other side of the country. Up until this last point, life insurance companies faced the same issues as any other investor. However, while most investors needed to immediately liquidise their investment, life insurance companies could wait for a better moment to sell their property as they had the benefit of scale and the time to wait. Most investors had only a few properties, but life insurance companies had bought far more mortgages as they were simply larger. While it was still expensive to manage property on the other side of the country, the fixed costs could be distributed over more properties. However, there were also other large buyers besides life insurance companies. The second advantage was that life insurance companies only needed to pay out their invested money when their clients passed away. They did not have a policy that guaranteed investors a specific monthly return. As long as enough capital was available to pay out when clients passed away, they could wait for an opportune moment to sell their property. Without inexpensive mortgages, favourable legislation or better information, life insurance companies became large mortgage providers in the USA, because their type of organisation was better equipped to handle crises.

¹⁹ Hoffman, Postel-Vinay, and Rosenthal. *Priceless markets*, pp. 271-272.

²⁰ Snowden, 'The Evolution of Interregional Mortgage Lending Channels', pp. 209-211 and 230-235.

To summarize, repayment terms, legislation, information and organisation shape mortgage markets. While every example focused on either repayment terms, legislation, information or organization, these factors did not operate independently from each other. Favourable repayment terms were important for the success of British building societies, but legislation did not make them illegal or prohibit their expansion.²¹ The Prussian government facilitated cooperative mortgage associations, but, if the government would not have incorporated the Prussian nobility into the organisation as managers and directors, the Prussian nobility would have fiercely resisted the Prussian government.²² French notaries controlled the mortgage market, because they controlled vital information. This diminished competition from outside of the profession, but notaries still needed to offer a reliable and affordable service due to competition within the profession.²³ In the USA, life insurance companies rose to prominence as they could handle crises on the mortgage market. However, they still hired local mortgage providers to arrange mortgage contracts, because they had better access to information.²⁴ A mortgage market is a complex system influenced by various intertwined factors. Isolating these various factors, however, provides several starting points for this research into the Dutch mortgage history.

Dutch literature

While this complexity and variation has been discussed in recent international mortgage historiography, Dutch mortgage historiography is still preoccupied by banks. This raises the question: Why did Dutch mortgage historiography almost exclusively focus on the position of banks in the mortgage market? The literature was aware of the fact that banks only rose to prominence on the mortgage market after the Second World War.²⁵ The literature knew that there was a mortgage market in the Netherlands prior to the emergence of banks. Again, a comparison could provide insight into the matter as Dutch mortgage historiography does not provide a clear answer. Dutch financial historiography also focused on banks, but, like international mortgage historiography, it broadened its perspective in recent decades. A comparison with Dutch financial historiography, however, could be more revealing than international mortgage historiography, because it discusses the same banking system as Dutch mortgage historiography. Therefore, the reasons for focusing on banks, but also the eventual shift away from banks, is more justifiably extrapolated to Dutch mortgage history.

²¹ Goacher, et al. *British non-bank financial intermediaries*, pp. 89-93.

²² Wandschneider. 'Landschaften as Credit Purveyors', p. 798.

²³ P. Hoffman, G. Postel-Vinay, and J. Rosenthal. 'What do notaries do? Overcoming asymmetric information in financial markets: The case of Paris, 1751.' Working Paper, UCLA Department of Economics, 1994, pp. 8-17.

²⁴ Snowden, 'The Evolution of Interregional Mortgage Lending Channels', pp. 230-235.

²⁵ Glasz. *Hypotheekbanken*, pp. 33-57.

Before 1965, banks took centre stage in Dutch financial historiography as their development was connected to industrialization.²⁶ The industrial revolution made production less labour intensive, but, in exchange, it had become more capital intensive. Consequently, an efficient financial system is essential for industrialization as it provides the necessary capital. The precursors of banks were considered inefficient and incapable of supplying enough capital. Only with the emergence of banks in the 18th and 19th century, industrialists gained access to an institution capable of supplying the necessary capital. This hypothetical chain of events was seemingly confirmed by the timing of industrialization in the Netherlands. For instance, when the Netherlands was compared with Belgium, it was noted that the Netherlands industrialized far later. Dutch financial historiography argued that this difference was caused by the absence of banks like the *Société Générale de Belgique* (General Company of Belgium), which took in deposits and invested in industry.²⁷ When the Netherlands eventually industrialized, it seemed to occur simultaneously with the foundations of banks like the *Twentsche Bankvereeniging* (Twente Bank) in 1861.

Due to this incorrect connection, the precursors of banks are inevitably made less important, because, if the precursors could also finance industry, banks are not pivotal. This argument, however, requires an explanation for the timing of events. For instance, why did the Netherlands not copy the success of the General Company of Belgium earlier in its history? If banks are intrinsically better than any precursors, then there is no reason to postpone the creation of banks. To sustain this argument, Dutch financial historiography argued that social attitudes towards banks obstructed their development.²⁸ As banks need investors to provide starting capital, financial historians argued that these investors had the wrong attitude towards banks in the beginning of the 19th century. Dutch investors are described as too conservative, too unpatriotic and “whose brains, suffering, from spiritual flabbiness, prevented them from hazarding the leap from the traditional way of doing business”.²⁹ The attitudes only changed with a new generation of investors influenced by modern ideas and experience with banks in other countries. As financial historians believed that this argument was correct up until 1965, there was no reason to study any other method of lending and borrowing, because it was already concluded that they were less efficient than banks.

Between 1965 and 1985, however, Dutch financial historians started to question the link between banks and industrialization. They reached the conclusion that this link presents three major problems. Firstly, it assumes that banks predate industrialization, but it could also be argued that

²⁶ Wintle. *An economic and social history of the Netherlands, 1800–1920*, p. 96.

²⁷ Jonker, ‘The alternative road to modernity’, pp. 98-108.

²⁸ R. Griffiths. *Industrial retardation in the Netherlands 1830–1850*. Springer Science & Business Media, 1979, pp. 39-43.

²⁹ Ibidem, p. 42.

industrialization creates banks.³⁰ Cause and effect are difficult to determine, because there is not one date on which the Dutch economy became industrialized. It was a gradual process, which could have started before or after the introduction of banks in the financial system. Secondly, while it is correct that credit is necessary for industrialization, it does not mean that an abundance of credit always results in an industrial economy.³¹ It still requires individuals to invest the credit in industrial machinery. Therefore, even if banks create more access to credit, it could have very little impact on industrialization. Thirdly, the link overemphasizes the importance of banks and ignores the fact that the precursors of banks played an important role before, during and after the industrial revolution.³² Like industrialization, the financial system changed gradually. The older methods of lending and borrowing did not abruptly disappear from one day to the next. The Twente Bank, for instance, was founded by a notary who had already 20 years of experience with borrowing and lending.

After 1985, the Dutch financial historiography abandoned the assumption that banks are necessary for industrialization.³³ Consequently, the conclusion that precursors were less efficient than banks could be challenged. Instead, financial historians started to assume that historical actors were as economically rational as current economic actors. If individuals preferred one method of borrowing and lending over another, there must be a rational economic reason for this choice. Based on this assumption, researchers have examined, for instance, the *prolongatie* system extensively.³⁴ Due to the *prolongatie* system, individuals from all corners of the Netherlands could borrow short-term credit on the Amsterdam stock market with securities as collateral. It emerged during the Dutch golden age in which the Dutch founded one of the oldest stock exchanges in the world and the Netherlands was one of the richest countries in the world. No other country could completely copy this system due to this specific context. When banks eventually entered the stage, the *prolongatie* provided stiff competition, which was not present in other countries. When the *prolongatie* system ended, as much as 400 million gulden had been flowing throughout the system, which was double the total amount of fixed deposits in the hands of commercial banks. The *prolongatie* system only ended during the First World War when the Amsterdam stock exchange was temporarily closed. While banks immensely benefited of the demise of the *prolongatie* system, banks did not outcompete the *prolongatie* system. The *prolongatie* system was as efficient as banks at the start of

³⁰ J. de Vries and A. van der Woude. *The first modern economy: Success, failure, and perseverance of the Dutch economy, 1500–1815*. Cambridge University Press, 1997, pp. 129-147

³¹ Wintle. *An economic and social history of the Netherlands*, p. 93.

³² J. Jonker, *Merchants, bankers, middlemen: The Amsterdam money market during the first half of the 19th century*. NEHA, 1996, pp. 18-22.

³³ Jonker, *Merchants, bankers, middlemen*, pp. 18-22.

³⁴ Jonker, 'The alternative road to modernity', pp. 102, 115 and 119.

the First World War. Therefore, people kept using the *prolongatie* system until it was no longer possible.

When comparing the development of Dutch financial historiography to Dutch mortgage historiography, there are clear differences after 1985. Before 1985, however, they are quite similar. The absence of mortgage banks is described as detrimental for the economic development of the Netherlands, because companies could not acquire the necessary funding.³⁵ The precursors of banks were either too expensive or simply not capable of arranging large mortgages. While a mortgage bank would have solved these issues according to contemporaries and the historians of Dutch mortgage market, investors were unwilling to provide the necessary starting capital for mortgage banks. The unwillingness is blamed on the attitude of potential investors. They are described as “dom” (stupid) and “onverschillige luiheid” (indifferent laziness).³⁶ When mortgage banks are eventually founded in the Netherlands, they initially seem a great success. In 1905, almost half of all mortgages were arranged by mortgage banks, but this peak was never reached again.³⁷ Mortgage banks would eventually be replaced by other types of banks like deposit banks, but there was clearly an interval between the decline of the mortgage bank and the rise of other types of banks on the mortgage market. This interval creates a unique problem for Dutch mortgage historiography. Dutch financial historiography could tell an almost triumphant story about the steady rise of banks, which proves the superiority of banks over other ways of borrowing and lending. However, this interval seems to question this superiority, because, if banks are superior, there should not be an interval in which banks are replaced by other less efficient ways of arranging mortgages. However, like social attitudes, the offered solution does not challenge the assumption that banks were intrinsically better. Dutch mortgage historiography argued that the decline was caused by several negative externalities.³⁸ For instance, two mortgage banks got embroiled in corruption scandals as the directors had altered accounts and contracts, which had a negative effect on the reputation of mortgage banks in general. Therefore, the interval did not mean that banks were not intrinsically better. It was just a temporary negative reputation.³⁹

After 1985, when Dutch financial historiography changes fundamentally because the connection between banks and industrialization is abandoned, Dutch mortgage historiography changes very

³⁵ Klein, P. and H. Vleesenbeek, ‘De geschiedenis van het hypotheekbankwezen’ 75 jaar Nederlandse Vereniging van Hypotheekbanken Nederlandse Vereniging van Hypotheekbanken, edited by J. Bouma, R. Burgert and H. Visser, Nederlandse Vereniging van Hypotheekbanken, 1981, pp. 9-30.

³⁶ Klein and Vleesenbeek, ‘De geschiedenis van het hypotheekbankwezen’, p. 10.

³⁷ Glasz. *Hypotheekbanken*, pp 7-22.

³⁸ Klein and Vleesenbeek, ‘De geschiedenis van het hypotheekbankwezen’, pp. 9-30.

³⁹ ‘Strafzaak Holl. Hypotheekbank’ *Provinciale Overijsselsche en Zwolsche courant*, 23 November 1906, p. 7 and ‘ZuidHoll. Hypotheekbank’ *De Tijd: godsdienstig-staatkundig dagblad*, 24 September 1906, p. 2.

little. There is some critical literature about the efficiency of mortgage banks, because, in the 1980s, every mortgage bank either went bankrupt or was bought up.⁴⁰ However, while the literature offers several reasons for the end of independent mortgage banks from increased competition from other kinds of banks to the second oil crisis, the reasons are based on the financial circumstances in the 1980s. Consequently, the reasons are not directly applicable to mortgage banks in 19th century. In recent years, there have only been two works that examine other ways of arranging mortgages prior to the dominance of banks on the Dutch mortgage market.⁴¹ This could be enough if both reached undebatable and general conclusions, but, by the authors' own admission, both works were inconclusive. Both works examined the possibility that notaries intermediated on the Dutch mortgage market similar to French notaries. However, both works conclude that notaries did not play an important role on the Dutch mortgage market. Instead of notaries, one work argues that newspaper advertisements maybe played an important role and the other work argues that personal relations maybe brought creditor and debtor together. So, besides these inconclusive works and some critical literature about mortgage banks, Dutch mortgage historiography still resembles Dutch financial historiography prior to the abandonment of the connection between banks and industrialization. It still overlooks other ways of arranging mortgages besides banks.

Outline

Therefore, there is still a world to gain in understanding the innerworkings of the Dutch mortgage market. Describing the entire Dutch mortgage market, however, is not possible. To limit this thesis to manageable proportions, this thesis focuses on Nijmegen between 1879 and 1889. The Nijmegen mortgage market is examined as it has a perfect size. It is not as large as, for instance, the Amsterdam mortgage market. Its size would have resulted in a loss of depth as not every mortgage could have been digitized. On the other hand, Nijmegen is not as small as a rural village. While a small rural village would have produced more detailed information, it would be less representative. Regardless of its size, however, Nijmegen is specifically chosen for its limitations, which raises an important issue. Is the mortgage market in Nijmegen representative for the Dutch mortgage market? This question is tackled in the first chapter. It is dedicated to the context in which it is made clear that, while Nijmegen is slightly larger than the average mortgage market and is not a perfect

⁴⁰ J. Koelewijn. 'De achtergronden van het verdwijnen van de zelfstandige hypotheekbanken in de jaren tachtig.' Researchmemorandum, Vrije Universiteit Amsterdam, 1987, pp. 1-30.

⁴¹ A. van Raaij, 'De notaris en asymmetrische informatie: Zijn Nijmeegse notarissen in de periode 1864-1884 het intermediair tussen de kredietgever en de kredietnemer?' MA Dissertation, Radboud Universiteit, 2015 and O. Gelderblom, M. Hup and J. Jonker 'Public Functions, Private Markets: Credit Registration by Aldermen and Notaries in the Low Countries, 1500–1800.' *Financing in Europe*, edited by M. Lorenzini, C. Lorandini and D. Coffman, Palgrave Macmillan, 2018.

reflection of the Dutch mortgage market, it could still serve as representation of the entire Dutch mortgage market, when some unique features are taken into account.

Originally, this thesis was intended to examine an earlier period with fewer banks, which would have meant more room for other players on the mortgage market. However, the day register, one of the main sources used in this thesis, only exists from 1879 onwards. In this period, banks had already captured a substantial market share, but several older players were still active on the mortgage market, which provides a glimpse of the mortgage market before the dominance of banks. The research period ends in 1889, because the population register, one of the other main sources, is only digitally available up until 1890. Digital accessibility was crucial for this thesis as the information of hundreds of individuals had to be tracked in the population register, which is too time intensive when examining physical copies of the population register. This thesis uses a combination of day register and population register, because together they provide a broader picture than previously used notarial archives and a more precise picture than national statistics about the mortgage market. Of course, the day register and population register have their limitations, which are discussed in the “Data” chapter, but the advantages clearly outweigh the limitations.

After the first two chapters which outline the context and the relevant data, this thesis begins to answer the core of the main question: how did individuals acquire mortgages? Some people used mortgage banks, but who used mortgage banks? On first sight, this might sound like an odd chapter for this thesis, but the answer also says something about the people who did not chose mortgage banks. Their group characteristics, reasons or type of mortgages are different from those who preferred mortgage banks. Besides the mortgage bank, the ‘Institutions’ chapter discusses other legal persons, which includes everything from banks to merchants’ firms to the local hospital. The fourth chapter looks at the possibility that people arranged their mortgage through intermediaries. While the chapter is titled ‘Intermediaries’, it focuses exclusively on notaries. Again, this could be interpreted as a slightly odd choice as the only two recent studies already concluded that notaries were not important in the Dutch mortgage market.⁴² However, this thesis arrives at a different conclusion, which requires an extensive explanation. Lastly, this thesis examines the possibility that people arranged their mortgages directly with one another and without the interference of intermediaries or institutions. Aside from maybe letters and diaries, it is impossible to definitively determine if people arranged mortgages directly with each other. However, creditor and debtor probably knew each other before signing a long-term financial contract. Therefore, this chapter examines possible connections between creditor and debtor before signing a mortgage contract. If

⁴² Raaij, ‘De notaris en asymmetrische informatie’ and Gelderblom, Hup and Jonker ‘Public Functions, Private Markets’.

there is a direct connection, then it could have been arranged through this connection. Without a connection, it would have been difficult to assess the risks connected to signing a long-term mortgage contract.

In the previous chapters, this thesis examines every possibility as if the others do not exist to acquire an uncluttered understanding. In the conclusion, however, this thesis examines the possibilities side by side. Unfortunately, the small size of the dataset and the inconsistent distribution of information about the various mortgages makes it impossible to run a general statistical model that provides a representative picture of the entire mortgage market. There are only a few mortgages about which everything is known from occupation of the creditor to religion of the debtor to the employed notary, but these mortgages do not resemble the dataset as a whole. Therefore, the conclusion is a qualitative examination of the preceding chapters instead of one statistical model. While this examination provides a less specific overview of the mortgage market in Nijmegen, it makes it possible to deduce questions demanding solutions faced and resolved by every mortgage market in history.

Context

As mentioned in the introduction, the Nijmegen mortgage market functions as a representation of the Dutch mortgage market in the nineteenth century. This necessitates that Nijmegen is representative for the entire Dutch mortgage market in the nineteenth century. However, there is no simple yes or no answer possible on this question. When the exceptionally large cadastral offices are removed from the equation, the total value and number of mortgages recorded at the Nijmegen cadastral office is above the national average between 1879 and 1889.⁴³ This corrected average aligns with the fact that the Nijmegen cadastral office is usually the 22nd largest out of 34 offices, when ranked on the total value and number of mortgages. While the total value and number of mortgages agree on the relative size of the cadastral office in Nijmegen, their development patterns between 1879 and 1889 provide a more conflicting image about the representativeness of Nijmegen. The number of mortgages arranged in Nijmegen stays close to the national development pattern, but the total value deviates noticeably with 1882 as pinnacle. The interest rates charged for mortgages arranged at the Nijmegen cadastral office come comparatively close to the national interest rates. However, it shows that a complete reliance on statistical measurements results in incorrect conclusions as it equates statistical correlation with being representative. To resolve this issue, it is necessary to examine the historical causes responsible for the deviations and similarities between the Nijmegen and Dutch mortgage market. While it is clear that the regional importance of the city of Nijmegen, the demolition of its city wall and its medieval legacy shaped the Nijmegen mortgage market, they reaffirm that Nijmegen is not a perfect representation of the entire Dutch mortgage market. However, when taking the local circumstances into account, it is possible to adapt this representation to the Dutch mortgage market.

Measurements

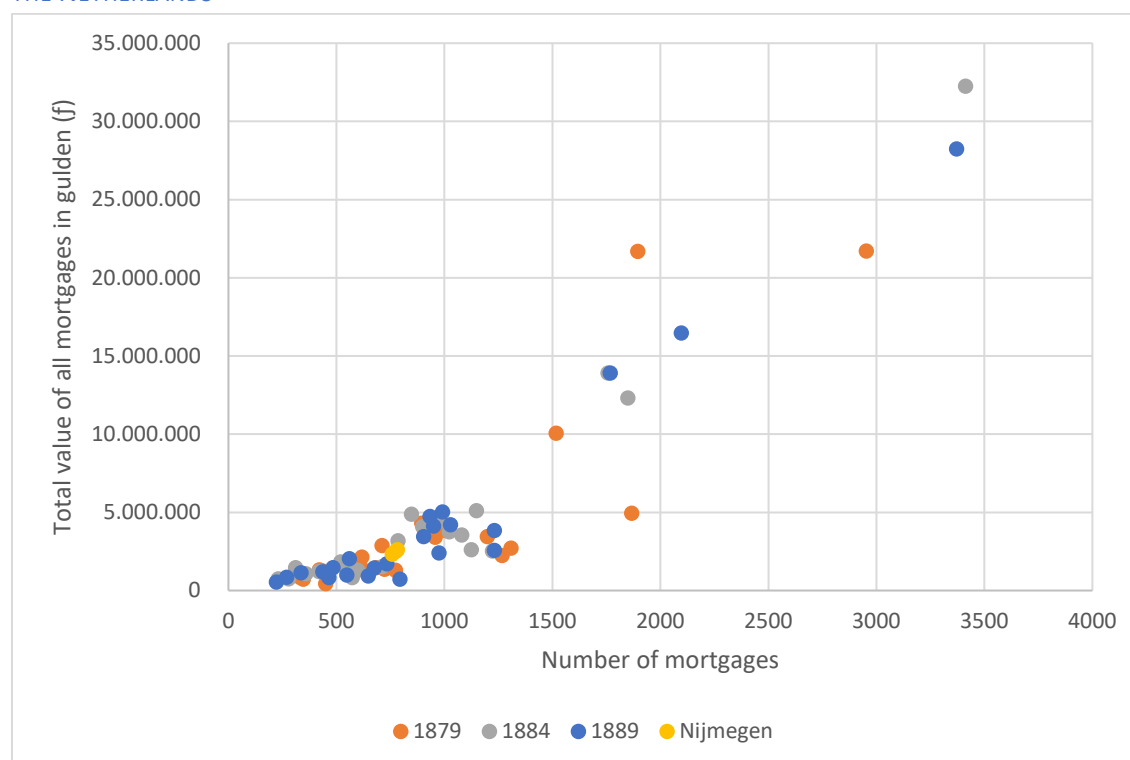
Is the Nijmegen mortgage market representative for the Dutch mortgage market between 1879 and 1889? If Nijmegen is unrepresentative, conclusions reached in this thesis cannot be generalized to the Netherlands. While this is a very simple question, the answer is fairly complicated. The first complication arises from the fact that there are no figures available for specific cities in the Netherlands. Relevant figures are only available for each of the 34 cadastral offices, which were responsible for keeping records about mortgages arranged in the Netherlands.⁴⁴ While there was a cadastral office in Nijmegen, its records also contain information about mortgages from surrounding villages. It is impossible to distinguish the city of Nijmegen from its surrounding villages in these

⁴³ Bochove and Hasken, 'The modernization of credit markets' and 'Jaarcijfers voor Nederland 1891' *Centraal Bureau voor de Statistiek*, 12 December 2018, http://www.historisch.cbs.nl/detail.php?nav_id=16-1&id=102067356.

⁴⁴ Ibidem

figures. However, as they are the only available figures, this thesis cannot avoid them or choose not to use them. Despite the addition of some surrounding villages, it should be noted that approximately a third of all mortgages were arranged in the city of Nijmegen.⁴⁵ Other large cities in the vicinity of Nijmegen like Arnhem, Tiel and 's-Hertogenbosch had their own cadastral office. Therefore, these imperfect figures still provide relevant information about the representativeness of the Nijmegen mortgage market, because, within the figures of the cadastral office in Nijmegen, the city of Nijmegen was the single largest contributor.

FIGURE 1: THE RELATIVE SIZE OF THE NIJMEGEN CADASTRE OFFICE COMPARED TO OTHER CADASTRE OFFICES IN THE NETHERLANDS



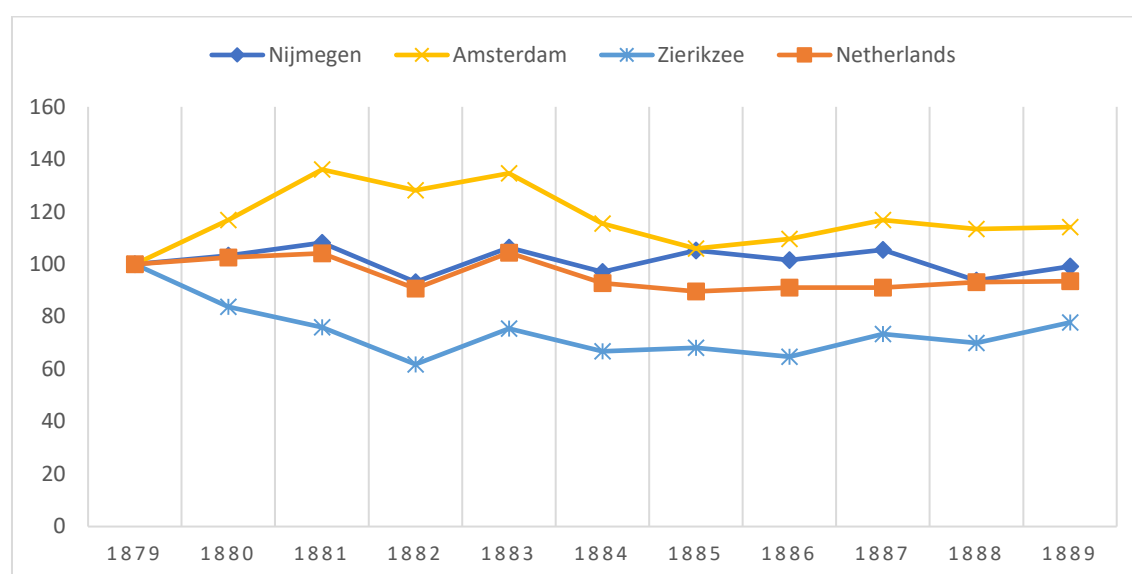
Source: C. van Bochove and E. Hasken, 'The modernization of credit markets: How private lenders disappeared from the Dutch mortgage market, 1860-2000' Working Paper, Radboud University, 2018.

With these imperfect figures, it is possible to examine representativeness through various measurements. For instance, how comparatively small or large is the Nijmegen mortgage market? Figure 1 shows that Nijmegen is a 'middle of the road' mortgage market in 1879, 1884 and 1889, when the exceptionally large mortgage markets beyond 1500 mortgages and worth more than 10 million are momentarily ignored. However, this figure does not include every year in the research period and it is not very exact. It is necessary to analyse the underlying figures for the entire research period to acquire a more exact answer. With its average of 790 mortgages worth 2.86 million each

⁴⁵ See Table 3 in chapter "Data".

year, Nijmegen is actually smaller than the national average of 873 mortgages worth 3.67 million between 1879 and 1889.⁴⁶ However, the national average is clearly skewed by three exceptionally large cadastral offices like Amsterdam with its 3412 mortgages worth 32 million in 1884. When the offices of Amsterdam, Rotterdam and 's-Gravenhage are excluded from the national average, it drops to 727 mortgages worth 2.12 million. This corrected average aligns with the finding that Nijmegen is usually the 22nd largest cadastral office, when the 34 cadastral offices in the Netherlands are ranked according to their total value and number of mortgages. Therefore, it should be concluded that Nijmegen is a relatively large mortgage market, but, as its 22nd place and figure 1 illustrate, it does not belong to the extremes in this period.

FIGURE 2: THE RELATIVE NUMBER OF MORTGAGES BETWEEN 1879 AND 1889 (1879 = 100)



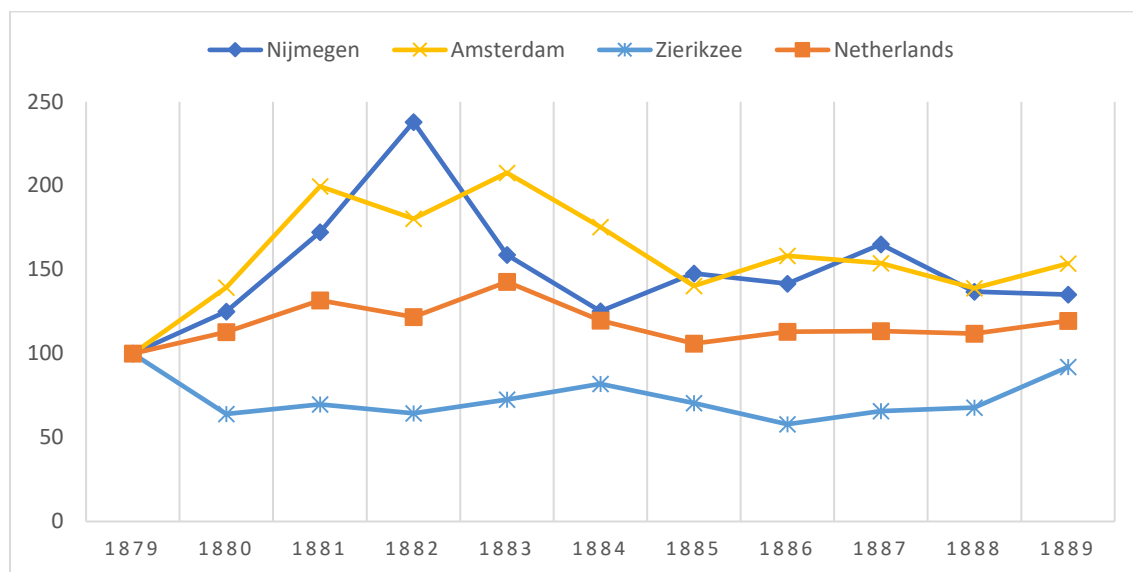
Source: C. van Bochove and E. Hasken, 'The modernization of credit markets: How private lenders disappeared from the Dutch mortgage market, 1860-2000' Working Paper, Radboud University, 2018 and 'Jaarcijfers voor Nederland 1891' Centraal Bureau voor de Statistiek, 12 December 2018, http://www.historisch.cbs.nl/detail.php?nav_id=16-1&id=102067356.

However, the corrected average, the rank and figure are not complete measurements for representativeness. They only provide information about the relative size, but they offer little information about the comparative development of the Nijmegen mortgage market in the research period. When examining the relative number of mortgages each year, figure 2 shows that the development of Nijmegen mirrors the national development. As the period from 1885 to 1887 most clearly shows, Nijmegen is not a perfect match, but it is clearly more representative than Amsterdam and Zierikzee. When analysing the absolute numbers behind the relative numbers, it is

⁴⁶ Bochove and Hasken, 'The modernization of credit markets' and 'Jaarcijfers voor Nederland 1891' *Centraal Bureau voor de Statistiek*, 12 December 2018, http://www.historisch.cbs.nl/detail.php?nav_id=16-1&id=102067356.

understandable that the smallest cadastral office in the Netherlands located in Zierikzee is less representative for the Dutch mortgage market, because fewer mortgages means more impact per arranged mortgage.⁴⁷ Consequently, more fluctuations should be expected. However, the largest cadastral office in Netherlands located in Amsterdam is just as unrepresentative even though its pattern is based on more mortgages. However, like figure 1, figure 2 is not a very exact method of comparison. If 1881, for instance had been used as the starting point instead of 1879, Zierikzee and Amsterdam would have appeared far more stable. Instead of a figure, correlation coefficients would be more exact in theory. In practice, however, they are very volatile with so few data points. For instance, including 1877, 1878 and 1890, Zierikzee's coefficient is reduced from 0.60 to 0.38, but Nijmegen's and Amsterdam's coefficient increase from 0.48 and 0.47 to 0.74 and 0.70.⁴⁸ Despite the volatility, the correlation coefficients seem to confirm that Nijmegen is more representative than Amsterdam and Zierikzee. However, with the inclusion of the figure, it becomes clear that the correlation is negatively affected by something that happens after 1884.

FIGURE 3: THE RELATIVE VALUE OF MORTGAGE MARKETS BETWEEN 1879 AND 1889 (1879 = 100)



Source: C. van Bochove and E. Hasken, 'The modernization of credit markets: How private lenders disappeared from the Dutch mortgage market, 1860-2000' Working Paper, Radboud University, 2018 and 'Jaarcijfers voor Nederland 1891' Centraal Bureau voor de Statistiek, 12 December 2018, http://www.historisch.cbs.nl/detail.php?nav_id=16-1&id=102067356.

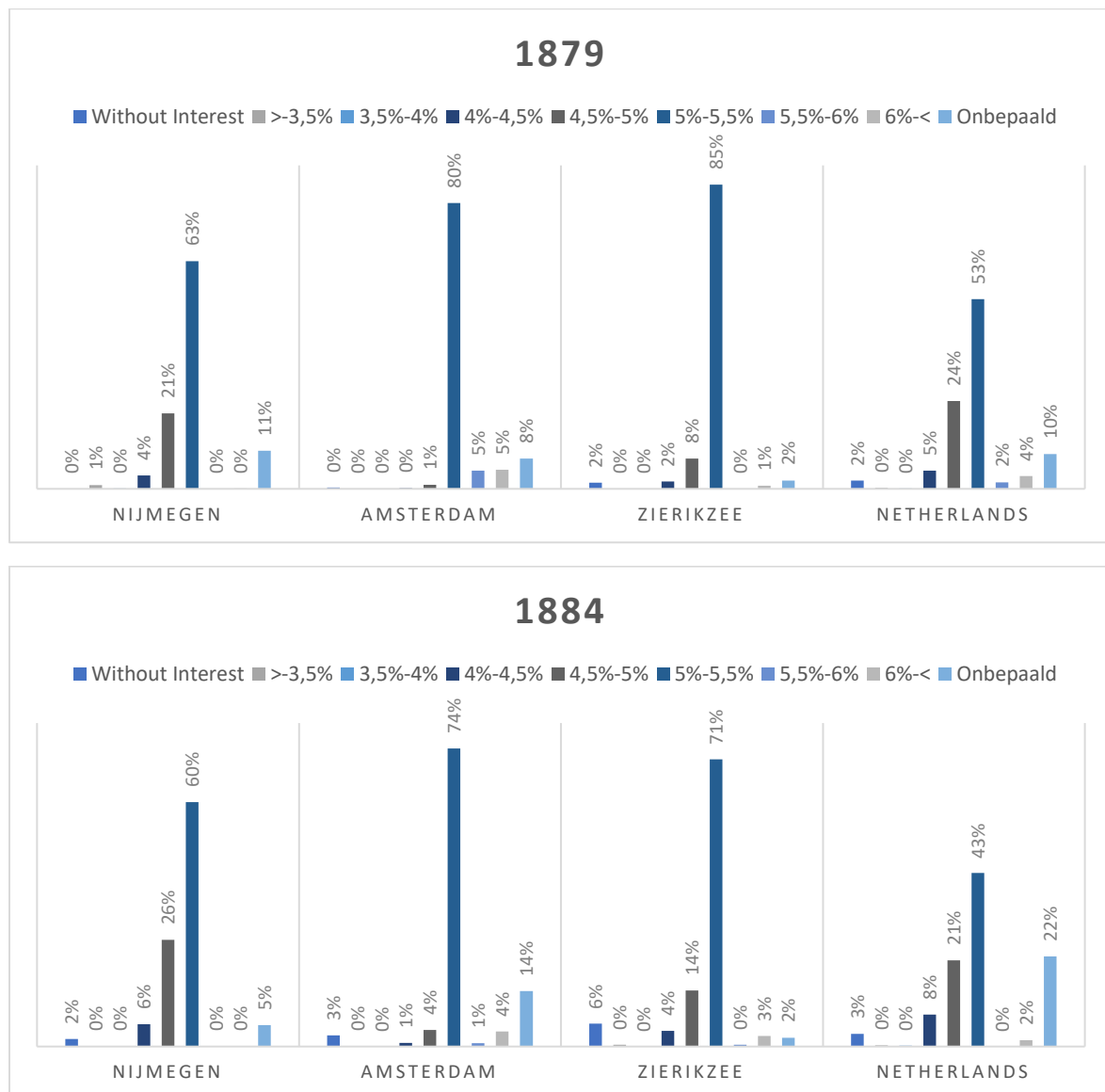
While Nijmegen mirrors the national average in figure 2, this cannot be observed in figure 3 in which the relative value of mortgages each year is plotted. There are still a few years in which Nijmegen comes close to the national development like 1880, 1883 and 1884, but it is often far removed with

⁴⁷ Bochove and Hasken, 'The modernization of credit markets'.

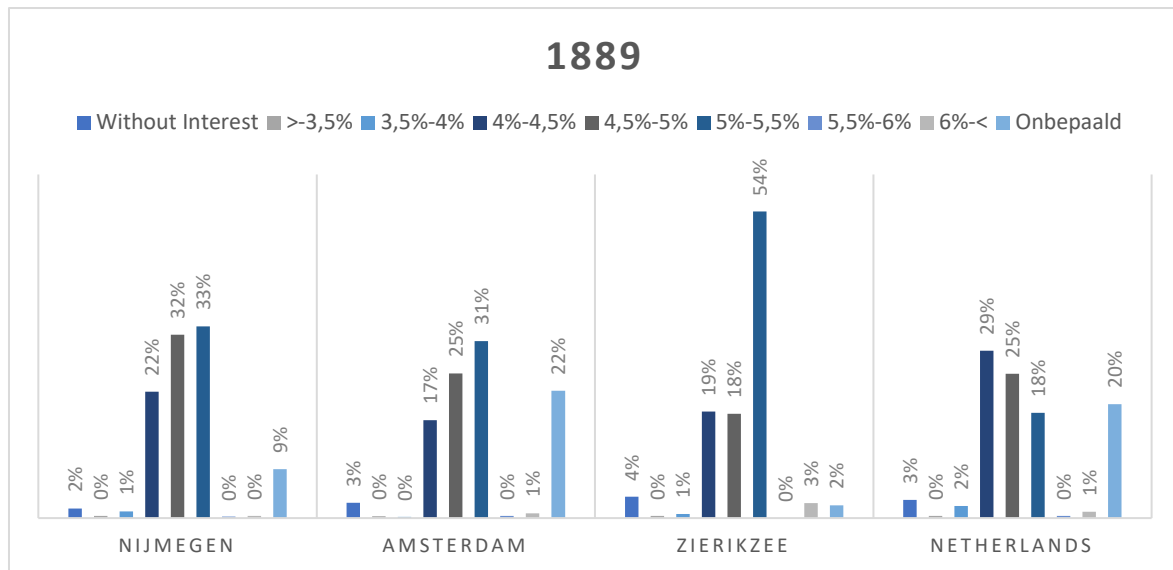
⁴⁸ Bochove and Hasken, 'The modernization of credit markets' and 'Jaarcijfers voor Nederland 1891' Centraal Bureau voor de Statistiek, 12 December 2018, http://www.historisch.cbs.nl/detail.php?nav_id=16-1&id=102067356.

1882 as pinnacle. While the correlation coefficients are still very volatile, they confirm the unrepresentativeness of Nijmegen. When 1877, 1878 and 1890 are included, the correlation coefficients of Nijmegen and Amsterdam increase from 0.31 and 0.87 to 0.54 and 0.92, while Zierikzee's coefficient decreases from 0.13 to -0.19.⁴⁹ It could be partially mended by analysing the absolute numbers behind the relative numbers. The discrepancy in 1882, for instance, is caused by two exceptionally large mortgages worth more than half the total value. However, to fully close the gap between Nijmegen and the Netherlands, another explanation is necessary.

FIGURES 4-6: THE RANGE OF INTEREST RATES CHARGED FOR MORTGAGES RECORDED AT SEVERAL CADASTRAL OFFICES IN 1879, 1884 AND 1889



⁴⁹ Bochove and Hasken, 'The modernization of credit markets' and 'Jaarcijfers voor Nederland 1891' *Centraal Bureau voor de Statistiek*, 12 December 2018, http://www.historisch.cbs.nl/detail.php?nav_id=16-1&id=102067356.



Source: C. van Bochove and E. Hasken, 'The modernization of credit markets: How private lenders disappeared from the Dutch mortgage market, 1860-2000' Working Paper, Radboud University, 2018 and 'Jaarcijfers voor Nederland 1891' Centraal Bureau voor de Statistiek, 12 December 2018, http://www.historisch.cbs.nl/detail.php?nav_id=16-1&id=102067356.

To fully understand this explanation, however, it is important to emphasize the difference between cause and effect. Up until this point, the argument has been made that, if Nijmegen and the Netherlands show similar results, then the Nijmegen mortgage market is representative for the Dutch mortgage market. However, a similar result does not entail that the causes for the results are the same. If cause and effect are not separated, it produces strange conclusions. For instance, a relatively low or high interest rate could indicate that there is difference in supply and demand for mortgages between mortgage markets. Figures 4-6 show that Nijmegen is relatively close to the national distribution of interest rates. At this moment, however, it is more important to note that Amsterdam and Zierikzee also show a similar pattern in 1879 and 1884. Without the distinction between cause and effect, Amsterdam and Zierikzee would be considered similar mortgage markets based on similar distributions of interest rates. However, it is unlikely that the financial capital of the Netherlands and the smallest cadastral office in the Netherlands had similar supply and demand for mortgages.⁵⁰ It is more likely that Amsterdam had a high demand, while Zierikzee had a low supply. Both causes would increase the interest rate. This emphasis on cause in this paragraph does not mean that previous results should be ignored, but it is not enough to establish representativeness.

Circumstances

To return to the question, however, what was responsible for the difference in development of the Nijmegen and Dutch mortgage markets? For centuries, the expansion of the mortgage market had been limited, because the expansion of the city had been halted. Nobody had been allowed to build

⁵⁰ Bochove and Hasken, 'The modernization of credit markets'.

directly outside of the city walls except with special permission and the provision that the building had to be built from wood, because Nijmegen was designated as an important place for national defence.⁵¹ In case of attack, buildings would obstruct the field of fire. Wooden buildings were allowed with permission as they could be easily destroyed, but the owner would not receive any compensation for having his or her building taken down.⁵² Despite these strict building regulations to improve the defensibility of the city, the defences themselves – like the city wall – were not well maintained, despite some improvements throughout the centuries. In 1672 and 1794, Nijmegen was easily overrun by invading armies. Despite the ineffectiveness, it was only after the Franco-Prussian war in 1870 that the Dutch government decided that the defence policy had to be updated.⁵³ In 1874, the building restrictions were lifted and, between 1876 and 1880, the wall was almost completely destroyed. The destruction of the city walls ushered in a period of enormous expansion, which caused an expansion of the mortgage market. This expansion, however, was not evenly spread over time. If the building permits are a good indication, the number of buildings only rapidly increased after the destruction of the city wall was completed in 1880.⁵⁴ However, there was a significant dip in the number of building permits in 1885, which was immediately followed by another growth period until 1888. While this pattern of building permits does not perfectly fit on the development of the total value and number of mortgages in Nijmegen, it provides a reasonable explanation for disparity between Nijmegen and the Netherlands after 1884. Like the building permits, the Nijmegen mortgage market experienced a dip in total value and number of mortgages in 1884 after which there was an expansion until 1888. The Dutch mortgage market also experienced a dip in 1884, but it did not recover after 1884. Therefore, the Nijmegen and Dutch mortgage market develop differently after 1884, because the Nijmegen mortgage market still needed to finance the rapidly expanding city after the demolishment of its city walls.

The previous part of this chapter, however, also left another question unresolved. Why was Nijmegen actually a relatively large mortgage market? Of course, the demolition of the city wall made expansion possible, but without people buying the available land, the Nijmegen mortgage market would not expand. Due to a combination of immigration, envelopment of surrounding

⁵¹ 'Nijmegen – 6. Vestingstad (1500-1780)' *Huis van de Nijmeegse Geschiedenis*, 20 July 2018

<https://www.huisvandenijmeegsegeschiedenis.nl/info/Nijmegen>.

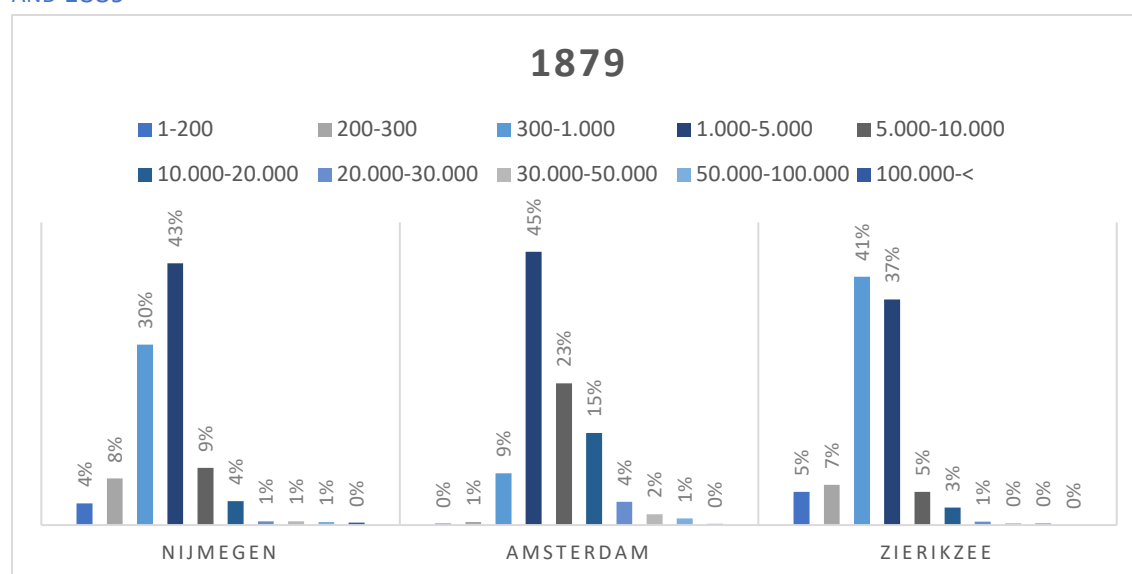
⁵² P. Ekkers en T. Ganzevles. 'Ruimtelijke ontwikkeling in de negentiende en twintigste eeuw' *Nijmegen: Geschiedenis Van De Oudste Stad Van Nederland. Dl. 3, Negentiende En Twintigste Eeuw*, edited by Jan Brabers, Inmerc, 2005, p. 20.

⁵³ J. de Vries, *Nieuw Nijmegen, 1870-1970: Moderne Economische Geschiedenis Van De Stad Nijmegen*. Stichting Zuidelijk Historisch Contact, 1969, p. 38.

⁵⁴ P. Klep. 'De economische en sociale geschiedenis van de negentiende eeuw' *Nijmegen: Geschiedenis Van De Oudste Stad Van Nederland. Dl. 3, Negentiende En Twintigste Eeuw*, edited by Jan Brabers, Inmerc, 2005, pp. 60.

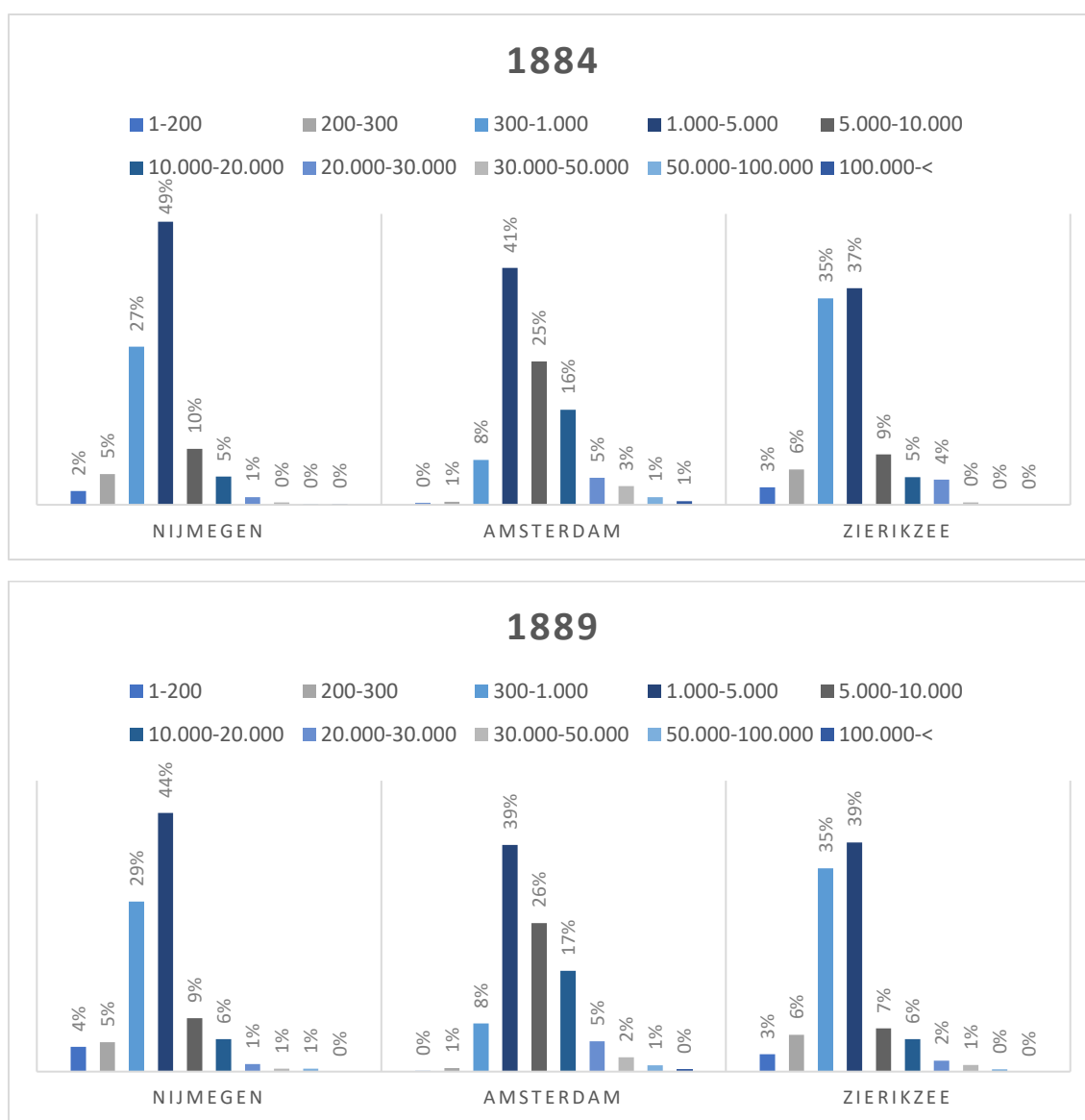
villages and the beginning of the demographic transition, the city's population doubled between 1875 and 1900.⁵⁵ While it is not exceptional to see a city expand during the industrial revolution, Nijmegen did not expand due to industrialization. Before 1875, 15% of individuals worked in the primary sector, 25% worked in the secondary sector and 60% worked in the tertiary sector.⁵⁶ The number of people working in the tertiary sector is relatively large due to the hundreds of soldiers garrisoned in Nijmegen, but its role as a regional trade hub also required many day labourers. After 1875, the primary and tertiary sector decreased to 9% and 49% respectively, but the secondary sector grew to 42%. Despite the fact that the secondary sector grew, its growth is mostly a response to the growth of the city, which required larger numbers of builders and other skilled workers. The primary reason for the growth of the city was the regional importance of Nijmegen in providing several services. This is reflected in the specialization of the tertiary sector into subsectors like secondary education, financial services and store staff. Without these services, Nijmegen and its mortgage market would have been substantially smaller as fewer people would have lived in Nijmegen.

FIGURES 7-9: THE VALUE RANGE OF MORTGAGES RECORDED AT SEVERAL CADASTRAL OFFICES IN 1879, 1884 AND 1889



⁵⁵ Vries, *Nieuw Nijmegen, 1870-1970*, p. 55.

⁵⁶ Klep. 'De economische en sociale geschiedenis van de negentiende eeuw', pp. 66-67.



Source: C. van Bochove and E. Hasken, 'The modernization of credit markets: How private lenders disappeared from the Dutch mortgage market, 1860-2000' Working Paper, Radboud University, 2018.

While the size and development of the Nijmegen mortgage market required explanations due to the clear difference with the Dutch mortgage market, the interest rates should also be discussed, despite the relatively small difference. The small difference is promising, but it does not necessitate that both mortgage markets function similarly. Nijmegen could have very unusual sources of supply and demand for mortgages. The destruction of the wall, for instance, is a clear and obvious candidate. Its destruction resulted in higher demand for mortgages to fund the many building projects beyond the former boundaries of the city. It should be noted that these building projects were often small-scale in Nijmegen.⁵⁷ Consequently, while the total demand for mortgages was relatively high, the individual mortgages were relatively small. Most debtors did not need mortgages higher than 5.000

⁵⁷ Klep. 'De economische en sociale geschiedenis van de negentiende eeuw', pp. 66-67.

gulden as figures 7 to 9 show. Regardless of the range of mortgages, the higher demand needs to be matched by more supply of mortgages to keep the interest rate stable. There are some common suppliers like the *Nationale Hypotheekbank* (National Mortgage Bank), which acquire their supply of capital from Dutch financial markets and arrange mortgages throughout the Netherlands. However, there are also uncommon suppliers like the charitable institution *De Ellendige en andere gevoegde Broederschappen*, which limit themselves to Nijmegen. While the list of uncommon suppliers consists of a diverse group of organisations, a common characteristic is a medieval origin. In the middle ages, Nijmegen was one of the wealthiest cities in the Netherlands.⁵⁸ It had town privileges since 1230, which gave the city more political and judicial independence. In 1402, it became a member of the Hanseatic league, which bolstered the already thriving trade. During this period of enormous wealth, this city founded several charitable organisations. Despite three centuries of political, economic and cultural upheaval between the middle ages and the research period, some of the wealth given to charities in the late middle ages found its way into the 19th century. If the supply had not been increased with the capital from charitable organisation founded in the middle ages, interest rates in Nijmegen would have differed from the national pattern.

Conclusion

Is the Nijmegen mortgage market representative for the Dutch mortgage market between 1879 and 1889? The simple answer is no. The measurements clearly show that there are differences between the Dutch and Nijmegen mortgage market. The Nijmegen mortgage market is relatively large. Its development does not perfectly align with the national patterns and, while the range of interest rates charged for mortgages in Nijmegen comes comparatively close to the national distribution, Nijmegen is not a perfect mirror image of the Dutch mortgage market. These differences are caused by various circumstances like the demolition of the city wall, the regional importance of Nijmegen and its medieval legacy, but this only reaffirms the fact that the Nijmegen mortgage market has unique characteristics. The complicated answer, however, is yes. Regardless of which city or region is studied, the national average or development will always be different from a local mortgage market, because the equations disregard local circumstances by their very natures. Consequently, it would not have helped to study another city or region. However, it is also not a solution to study the entire Dutch mortgage market as it is simply too large. While there are national statistics, they provide very limited information about the methods of arranging mortgages. However, it is not necessary to have a perfect representative case. When the demolition of the city wall, the regional importance and medieval legacy are taken into account, it is possible to explain the differences between

⁵⁸ 'Nijmegen – 5. Bloeiende Stad (1300-1500)' *Huis van de Nijmeegse Geschiedenis*, 20 July 2018, <https://www.huisvandenijmeegsegeschiedenis.nl/info/Nijmegen>.

measurements in size, development and interest rates. Therefore, it is possible to adapt Nijmegen's representation of a mortgage market to the Dutch mortgage market in general, because it is known in which ways Nijmegen differs from the Dutch mortgage market.

Data

In this thesis, the main sources are the day register from the local cadastre and the population register from the local municipality in Nijmegen.⁵⁹ To limit the scope of both sources, this thesis has only analysed the mortgages arranged between 27/5/1878–27/5/1879 and 27/5/1888–27/5/1889. These peculiar dates have been chosen, because the oldest surviving day register from the cadastral office in Nijmegen starts on 27/5/1878. The day register provides an overview of all mortgages arranged in Nijmegen and its surroundings. The day register is not a perfect source of information as it does not provide information about interest rates or the duration of the contract. However, it is less fragmented than the notarial archives used in previous research; was not destroyed on orders of the government like the mortgage registers; and provides specific information about individual mortgages instead of the more general statistics from the Central Bureau of Statistics. The population register provides personal information about the creditor and debtor, which ranges from their birthdate to their address to their religion. The population register is also not a perfect source of information as the personal register does not provide information about the reasons for signing a mortgage contract. Diaries and letters might provide answer to this question, but, in the scope of this thesis, it is impossible to find, read and analyse diaries and letters for hundreds of individuals. It also assumes that every creditor and debtor has written letters, kept diaries and recorded their reasons for signing a mortgage contract. Connecting the lenders and borrowers from the day registers, subsequently, to the population registry, they provide together a more complete picture of the circumstances in which a specific mortgage contract was signed. The population and day registers are linked together based on names. Despite this questionable linking method, there are very few or insignificant Type I and II errors due to strict limitations during the linking process.

Day Register

In 1832, the Dutch land registry called *kadaster* (cadastre) was founded, but it was not the first land registry in Dutch history that tried to register ownership of, possession of and claims on real estate.⁶⁰ Charles V (1500-1558) and Philip II (1527-1598) introduced a formal system of local land registers from the biggest trading cities to the smallest farming villages in the Netherlands, but it seems to have only been a formalization of already existing practices.⁶¹ These early modern registries were

⁵⁹ Gelders Archief, archive number 1711, Kadaster en Bewaarders van de Hypotheken, inventory number 3099, Hypotheekregister 1 (Dagregister), Kantoor Nijmegen, 27-5-1878 / 21-4-1879, 21-4-1879 / 3-9-1879, 8-11-1887 / 12-12-1888 and 13-12-1888 / 25-12-1889 and Regionaal Archief Nijmegen, archive number 679, Bevolkingsregisters van de gemeente Nijmegen 1818 – 1994, inventory number 32936-33531, Bevolkingsregisters, 1870-1880 and 1880-1890.

⁶⁰ Keverling Buisman, F., and E. Muller. *'Kadaster-Gids': Gids Voor De Raadpleging Van Hypothecaire En Kadastrale Archieven Uit De 19e En De Eerste Helft Van De 20e Eeuw*. Rijksarchiefdienst, 1979, pp. 7-8.

⁶¹ Zijlenderduijn, C. *Medieval capital markets: markets for renten, state formation and private investment in Holland (1300-1550)*. Brill, 2009, pp. 65-67.

remarkably efficient in providing reliable information about real estate to prospective buyers or mortgage lenders as envious descriptions of contemporary Englishmen show.⁶² However, these registries were not perfect. In general, these registries did not provide exact information about the dimensions of real estate.⁶³ Instead, they often gave descriptions of features in the landscape that marked the boundaries. This impreciseness led, for instance, to the stunning finding in 1544 that the Rijnland was 10.000 ha bigger than previously assumed.⁶⁴ This precise measurement was done by one of the *waterschappen* (water boards), which needed precise measurements to collect land taxes to fund local water defences. Besides the water boards, there were also several cities with precise maps for tax purposes. However, these maps were not drawn up everywhere and they were also not always directly connected to the land registries.

With some minor changes, this system remained in place until the Napoleonic era, when it was replaced with the cadastre.⁶⁵ However, there is a gap of 17 years between the end of the Napoleonic era and the foundation of the cadastre. In these 17 years, the information necessary to establish the cadastre was gathered. For instance, it needed to map the Netherlands and divide these maps into millions of distinguishable plots by using a coding system. Subsequently, these plots had to be connected to registers with information about ownership and possession. Originally, the cadastre did not register claims on real estate as the government only wanted to introduce a national land tax for owners. In 1825, however, the Dutch government decided that the information gathered by the cadastre would be connected to the registers of the *hypotheekbewaarder* (mortgage depository), which registered mortgages.⁶⁶ Like its predecessors, the mortgage depository had depended on descriptions of real estate to connect it to the relevant mortgage. With the maps and the distinguishable plots of the cadastre, however, these mortgages could be connected to more clearly defined real estate. After integration of both institutions between 1838 and 1844, they became known under the name cadastre.⁶⁷

As mentioned, the cadastre contains several different registers and maps, but this thesis is only interested in the registers that contain information about mortgages. The *hulpregister no. 3* or *inschrijvingsregister* (mortgage register) records relevant information about mortgages.⁶⁸ However,

⁶² Bochove, C. van, H. Deneweth, and J. Zuiderduijn. 'Real estate and mortgage finance in England and the Low Countries, 1300–1800.' *Continuity and Change*, vol. 30, no. 1, 2015, pp. 9-38, 10.

⁶³ Riessen, W. van, and G. Smit. *Kadaster*. Nederlandsche Uitgevers Maatschappij, 1975, p. 11.

⁶⁴ Dienst van het Kadaster en de Openbare Registers. *150 Jaar Kadaster in Nederland*. Ministerie Van Volkshuisvesting En Ruimtelijke Ordening, 1982, p. 12.

⁶⁵ Vos, M. de. *Het kadaster en de boekhouding op de hypotheeken: De tegenwoordige inrichting voorafgegaan door die in vroegere tijdvakken*. Wolters, 1902, pp. 1-29.

⁶⁶ Riessen and Smit. *Kadaster*. p. 11.

⁶⁷ Ibidem, p. 13.

⁶⁸ Keverling Buisman and Muller. '*Kadaster-Gids*'. p. 19.

this register has unfortunately been destroyed on orders of the government in 1878 and 1948 to clear up space in the archives of the cadastre. Therefore, this thesis uses the *dagregister* (day register). Before any deed was recorded in any other register, it had to be recorded in the day register, because it was used to verify whether deeds were handed to the cadastre. It is only after being recorded in the day register that the deeds would be recorded in their specific registers. A purchase contract, for instance, was recorded in *hulpregister no. 4. or overschrijvingsregister* (purchase register), which was designed to record information specifically related to purchases.⁶⁹ In the 19th century, the day register was still a collection of massive books with pre-printed questions and tables in which the recorder wrote relevant information regardless of the type of deed. Officially, the recorder would only write down the date on which the deed was handed to the cadastre, the type of change to the real estate, the individuals or institutions involved, the value of the mortgage or the purchase contract, the day the contract was created, the cost for recording the change in the cadastre and comments.⁷⁰ Unofficially, however, the day register from Nijmegen also mentions the notary who notarized the deed on the left side besides the table and, on the right side, a number which referred to the register to which the deed was transferred like the mortgage register. In later years, this unofficial information would become an official part of the day register, because this information made it possible to track the deeds in the notarial and cadastral archives. Despite these unofficial additions, some interesting information specifically related to mortgages is not recorded due the general structure of the day register. For instance, it does not record interest rates and the timespans of the contracts as it is not relevant information for purchasing contracts and land divisions.

Besides these absences, is the recorded information from the day register reliable and complete? When examining only the cadastre, you could walk away with the impression that the cadastre is highly unreliable as it is a so-called negative system. Which means that the cadastre does not search for changes related to real estate, but depends entirely on information brought to the offices of the cadastre.⁷¹ However, almost everyone brought their deeds to the cadastre, because, if it was not recorded in the cadastre, the government and by extension the judicial system did not recognize ownership, possession or claims and would favour the one recorded in the cadastre.⁷² This recognition is important as mortgages often involved large amounts of money, valuable collateral and long-term commitments. There are a few cases in which individuals did not have to arrange

⁶⁹ F. Otten, 'De registers van overschrijving van akten van eigendomsovergang vanaf 1811', *Resources Huygens ING*, p. 126, 22 July 2018, http://resources.huygens.knaw.nl/pdf/Broncommentaren/voorlopig/Broncommentaren_3_113-143.pdf.

⁷⁰ Riessen and Smit. *Kadaster*. pp. 31-32.

⁷¹ Ibidem, pp. 35-36.

⁷² Keverling Buisman and Muller. '*Kadaster-Gids*'. pp. 18-19.

recognition at the cadastre, like inheritance or marriage, because other governmental institutions provided the necessary information to the cadastre.⁷³ The negative system also means that the cadastre cannot refuse any information related to real estate as long as the deed contains the necessary information.⁷⁴ Therefore, when the cadastre was given incorrect information, it could only notify the rightful owner, who could correct the cadastre with his own deed. When the cadastre could not contact the rightful owner, its only option was to create a state of limbo in the register in which a plot could have multiple owners of whom only one was the rightful owner.

IMAGE 1: DAY REGISTER

Dagregister uit 1800.
Hierin worden per dag alle
akten ingeschreven.

DAGREGISTER		ROOSTER EN BALANSEN		AANKOMST	
DAAGTE	PLAATSE	DAAGTE	PLAATSE	DAAGTE	PLAATSE
1	1800	1	1800	1	1800
2	1800	2	1800	2	1800
3	1800	3	1800	3	1800
4	1800	4	1800	4	1800
5	1800	5	1800	5	1800
6	1800	6	1800	6	1800
7	1800	7	1800	7	1800
8	1800	8	1800	8	1800
9	1800	9	1800	9	1800
10	1800	10	1800	10	1800
11	1800	11	1800	11	1800
12	1800	12	1800	12	1800
13	1800	13	1800	13	1800
14	1800	14	1800	14	1800
15	1800	15	1800	15	1800
16	1800	16	1800	16	1800
17	1800	17	1800	17	1800
18	1800	18	1800	18	1800
19	1800	19	1800	19	1800
20	1800	20	1800	20	1800
21	1800	21	1800	21	1800
22	1800	22	1800	22	1800
23	1800	23	1800	23	1800
24	1800	24	1800	24	1800
25	1800	25	1800	25	1800
26	1800	26	1800	26	1800
27	1800	27	1800	27	1800
28	1800	28	1800	28	1800
29	1800	29	1800	29	1800
30	1800	30	1800	30	1800
31	1800	31	1800	31	1800
32	1800	32	1800	32	1800
33	1800	33	1800	33	1800
34	1800	34	1800	34	1800
35	1800	35	1800	35	1800
36	1800	36	1800	36	1800
37	1800	37	1800	37	1800
38	1800	38	1800	38	1800
39	1800	39	1800	39	1800
40	1800	40	1800	40	1800
41	1800	41	1800	41	1800
42	1800	42	1800	42	1800
43	1800	43	1800	43	1800
44	1800	44	1800	44	1800
45	1800	45	1800	45	1800
46	1800	46	1800	46	1800
47	1800	47	1800	47	1800
48	1800	48	1800	48	1800
49	1800	49	1800	49	1800
50	1800	50	1800	50	1800
51	1800	51	1800	51	1800
52	1800	52	1800	52	1800
53	1800	53	1800	53	1800
54	1800	54	1800	54	1800
55	1800	55	1800	55	1800
56	1800	56	1800	56	1800
57	1800	57	1800	57	1800
58	1800	58	1800	58	1800
59	1800	59	1800	59	1800
60	1800	60	1800	60	1800
61	1800	61	1800	61	1800
62	1800	62	1800	62	1800
63	1800	63	1800	63	1800
64	1800	64	1800	64	1800
65	1800	65	1800	65	1800
66	1800	66	1800	66	1800
67	1800	67	1800	67	1800
68	1800	68	1800	68	1800
69	1800	69	1800	69	1800
70	1800	70	1800	70	1800
71	1800	71	1800	71	1800
72	1800	72	1800	72	1800
73	1800	73	1800	73	1800
74	1800	74	1800	74	1800
75	1800	75	1800	75	1800
76	1800	76	1800	76	1800
77	1800	77	1800	77	1800
78	1800	78	1800	78	1800
79	1800	79	1800	79	1800
80	1800	80	1800	80	1800
81	1800	81	1800	81	1800
82	1800	82	1800	82	1800
83	1800	83	1800	83	1800
84	1800	84	1800	84	1800
85	1800	85	1800	85	1800
86	1800	86	1800	86	1800
87	1800	87	1800	87	1800
88	1800	88	1800	88	1800
89	1800	89	1800	89	1800
90	1800	90	1800	90	1800
91	1800	91	1800	91	1800
92	1800	92	1800	92	1800
93	1800	93	1800	93	1800
94	1800	94	1800	94	1800
95	1800	95	1800	95	1800
96	1800	96	1800	96	1800
97	1800	97	1800	97	1800
98	1800	98	1800	98	1800
99	1800	99	1800	99	1800
100	1800	100	1800	100	1800

Source: 'Van aankoopakte tot kadastrale registratie - dagregister' *De Hollandse Cirkel*, 22 July 2018, <https://www.hollandsecirkel.nl/component/djmediatools/album/78-van-aankoopakte-tot-kadastrale-registratie#media/78-van-aankoopakte-tot-kadastrale-registratie/1492-dagregister>.

However, this happens rarely as Dutch law dictates that all deeds must be notarized.⁷⁵ The notary had to make sure that the transaction was legal. For instance, the notary had to verify if the past 30 years of land transactions were done legally. There is a 30 years threshold, because Dutch law states that ownership is only forfeited after 30 years. Therefore, a notary could assume everything was legal after more than 30 years, because ownership was automatically forfeited. However, when there is only one incorrectly written contract within 30 years, the notary cannot assume rightful ownership

⁷³ Straaten, J. van. *Kadaster, openbare registers en derdenbescherming*. Kluwer, 1992, p. 48.

⁷⁴ Riessen and Smit. *Kadaster*. pp. 37-38.

⁷⁵ Straaten, *Kadaster*. pp. 7-10.

due to the domino effect as nobody was rightful owner after the incorrectly written contract. If the notary was negligent or fraudulent in this verification process, he could be punished with fines or imprisonment. To ensure compliance with the law, notarial archives were also regularly checked.⁷⁶ The cadastre cannot be used for this verification. It only shows the existence of titles, but it does not prove entitlement.⁷⁷ This slight contradiction is caused by the negative nature of the cadastre. In a legal setting, the cadastre is considered unreliable, because it does not verify information. The legal setting does not consider that the cadastre is actually very reliable due to all kinds of incentives and mechanisms. In a legal setting, the notarized deeds are required. These are not always present in the cadastre like in cases of inheritance. Lastly, while the cadastre is mostly a passive recorder of information, it has taken this passive position very seriously.⁷⁸ Every day in the day register, even the days without any deeds coming into the office, were signed off and every person should have received a document proving that they handed in a deed.

Completeness is slightly less complicated. On the one hand, the day registers from Nijmegen are very complete. There are even notes sent by other cadastre offices in the day register transferring a mortgage or purchasing contract to the office in Nijmegen, because every cadastre office was responsible for a certain area. The cadastre office in 's-Hertogenbosch, for instance, could not record a purchase of a plot of land belonging to the jurisdiction of the office in Nijmegen. However, while everything has been written down, the writing is not always legible. Especially the names of the notaries are difficult to read, because they are written in the margin with too little room. However, as the cadastre used the day register themselves, the recorders have clearly attempted to write as clearly as possible. On the other hand, the day registers are incomplete, because there is no day register for Nijmegen from before 1878, which could have two explanations. Before the day registers were transferred to the *Gelders Archief* (Gelders Archive) in the second half of the 20th century, they were stored in the office of the cadastre in Nijmegen.⁷⁹ Nijmegen was heavily bombed in the Second World War, during which parts of the purchase registers were destroyed.⁸⁰ However, this is not specifically stated for the day register. Another explanation is that the day register was simultaneously destroyed with the mortgage register, because the breakpoint of 1878 perfectly aligns with this governmental order.

⁷⁶ Raaij, 'De notaris en asymmetrische informatie' p. 20.

⁷⁷ Straaten, *Kadaster*. pp. 7-10.

⁷⁸ Riessen and Smit. *Kadaster*. pp. 31-32.

⁷⁹ 'Kadaster en Bewaarders van de hypotheek – Inleiding – Geschiedenis van het archief' *Gelders Archief*, 23 April 2018,

<https://www.geldersarchief.nl/onderzoek?trefwoord=kadaster+en+bewaarders+van+de+hypotheek>.

⁸⁰ 'Kadaster en Bewaarders van de hypotheek – Hypotheekregister 4, Kantoor Nijmegen' *Gelders Archief*, 23 April 2018, <https://www.geldersarchief.nl/onderzoek?trefwoord=hypotheekregister+nijmegen>.

The day register does not provide information about specific conditions in mortgage agreements like which interest rates were charged and the loan to value ratio. Answers on these questions could be found in notarial archives. Notaries had to preserve their archives and, in Nijmegen, they have been transferred to the regional archive.⁸¹ While the notarial archives play a minor role in this thesis, they are not the main focus, because the information is too fragmented as every notary had its own archive. Such archives are also difficult to search for specific mortgages as most notaries have organized their deeds on when they have written them. Their *repertorium* (index) follows the same time structure and those indexes which do not follow a time structure have not been preserved consistently. Another solution is using information from the *Centrale Bureau voor Statistiek* (Central Agency for Statistics, CBS), which has produced national statistics about the mortgage market.⁸² However, while it has already played a minor role in the “Context” chapter, the CBS has the problem that it is too imprecise, because it summarized information per cadastre office. It does not provide any individual information about borrowers or lenders. The day register is the perfect middle as it provides an easily accessible and complete record of institutions and individuals involved in mortgage agreements, but it is simultaneously detailed enough to provide information about every mortgage agreement separately. For this thesis, it is less relevant that the interest rates are unknown as this thesis is interested in the question: How did creditors and debtors arrange mortgages in Nijmegen between 1879 and 1889? The interest rate and the duration of the contract could only imply that there is a connection, but they cannot confirm that creditor and debtor knew each other personally or through an intermediary or involved an institution.

Population Register

This thesis could turn to very personal sources like diaries to find the connection between creditor and debtor, but, while these sources provide the highest chance of establishing a connection, they require a considerable amount of work to find the relevant information - a workload which becomes unmanageable when a few hundred individuals must be examined. It also assumes that these personal sources have been preserved for every individual, which is unlikely as certain individuals are simple labourers and farmers who did not leave any written sources behind. This thesis could also turn to the *burgerlijke stand* (civil registration), which records births, marriages and deaths.⁸³ This is going to sound repetitive, but, while the civil registry plays a minor role in this thesis, the civil registry can only provide snapshots and not continuous records. If someone does not marry or does not have

⁸¹ ‘Notariële archieven’ *Huis van de Nijmeegse geschiedenis*, 23 April 2018, https://www.huisvandenijmeegsegeschiedenis.nl/info/Notariële_archieven.

⁸² Example: ‘Jaarcijfers voor Nederland 1881 - Grondcrediet’ *Centraal Bureau voor de Statistiek*, 23 April 2018, www.historisch.cbs.nl/detail.php?nav_id=1-1&id=89035725&index=0.

⁸³ Vulmsma, R. *Burgerlijke stand en Bevolkingsregister*. Centraal Bureau voor Genealogie, 1988, pp. 6-70.

any children, they are only recorded at two or three moments in their lives. Therefore, this thesis mainly uses the *bevolkingsregister* (population register), which contains continuous records for households.

The population did not start as a continuous record, but as a census. While censuses were already done by the Romans and several Dutch versions on the local level existed from the Middle Ages and the early modern period, the first national census is based on population counts from the Napoleonic era and provincial censuses from the 1820s.⁸⁴ The first national census in the Netherlands was done in 1828 by royal decree. However, like every census, the information became quickly obsolete, because individuals do not remain in the same place with the same people for a decade. In this respect, the census of 1838 did not improve on the census of 1828. In 1839, however, the local government in Nijmegen already drew the conclusion that this had to be solved. Therefore, it took control of an incomplete and unreliable population register from the *armenfondsen* (Poor funds) as it was the only source with information about large portions of the population besides the census.⁸⁵ The poor funds had created a population register to keep track of the poor and poverty, but it became increasingly interesting for the government to keep track of all its residents. The national government, however, only changed the census after the province of South-Holland ordered its municipalities to keep the census up to date from 1845 onwards.⁸⁶ In 1849, when the third census was written down, a royal decree ordered that this third national census would be kept up to date. It drew up national guidelines and rules for record keeping. This did not mean the end of the census in the Netherlands. It would be done roughly every decade until 1971 when it was discontinued, because more and more people started to refuse providing information to the census.⁸⁷ The census had shifted away from recording basic information like address, as this was already recorded by the population register, to more intrusive or detailed questions.

Basic information is recorded by the population register, but what does basic information entail in 1880? The population register was organised by address.⁸⁸ For every address, it provided the residents and their family tie to the head of the household, when there was a family tie. In most cases, the head of the household was a father and husband. When he was deceased, the position

⁸⁴ Vulsma, R. *Burgerlijke stand en Bevolkingsregister*. Centraal Bureau voor Genealogie, 1988, pp. 72-73.

⁸⁵ 'Bevolkingsregisters van de gemeente Nijmegen' *Regionaal Archief Nijmegen*, 23 April 2018, https://studiezaal.nijmegen.nl/ran/_resultaat.aspx?invalshoek=22849198&invalshoeknaam=GENERIEK&highlightclassnaam=highlight&aantalperpagina=20&uitgebreid_zoeken=true&cmveldValue_VrijXXzoeken=bevolkingsregisters+van+de+gemeente+nijmegen+&cmveldName_VrijXXzoeken=VrijXXzoeken&sortering=.

⁸⁶ Vulsma, *Burgerlijke stand en Bevolkingsregister*. pp. 72-73.

⁸⁷ Ibidem, p. 75.

⁸⁸ A. Knotter, et al. 'De gemeentelijke bevolkingsregisters, 1850-1920', *Resources Huygens ING*, p. 81, 22 July 2018, http://resources.huygens.knaw.nl/pdf/Broncommentaren/voorlopig/Broncommentaren_2-075_116.pdf.

is even simpler, because the population registers between 1850 and 1890 have been digitized by the regional archive in Nijmegen. However, even the transcribed information is not always reliable. Especially birth dates seem to have often been written down incorrectly.⁹⁰ This can be a simple change of one year or one month, but sometimes it is completely different, because they have switched birth dates between household members. This is a serious issue on the individual level, but, on the larger scale of this research, these mistakes are less relevant. Besides absent and wrong information, the population register has not recorded everything that it set out to record. For instance, while the register attempted to be a continuous record, research has shown that the job title and address were not always updated, when they changed.⁹¹ Lastly, there is also a chance that certain households have not been recorded at all, because failing to notify the population register was not punishable by anything until 1887.⁹² In 1886, the highest court in the Netherlands had determined that individuals could not be punished for noncompliance as the population register was instituted by royal decree, which did not have the same status as a law passed by parliament. This flaw in the population register was immediately fixed by giving royal decrees the power of law in the case of population registries in 1887. However, while none of these issues completely disappear, the population register became more reliable over time. From 1870s onwards, for instance, local municipalities stopped complaining about the enormous differences between the population register and reality.⁹³ While the royal decree had no power of law before 1887, the instant solution seems to suggest that very few people actually knew that they were not obligated to follow a royal decree.

Therefore, this thesis uses the continuous, complete and relatively reliable population register to verify certain possible connections between borrower and lender. The last names of their partners provide the possibility to verify wider family connections. Their religion in combination with the location of churches make it possible to check if they knew each other from church. Their job titles not only show if they had the same job, but also if they were even in the same social-economic class. Their addresses show if Nijmegen was a sort of collection of villages in which borrower and lender simply lived in the same neighbourhood. Maybe it was none of the above, but regardless the population registry is the most ideal source to check these possibilities.

⁹⁰ Vulsma, *Burgerlijke stand en Bevolkingsregister*. pp. 76-77.

⁹¹ A. Knotter, et al. 'De gemeentelijke bevolkingsregisters, 1850-1920', *Resources Huygens ING*, p. 90, 22 July 2018, http://resources.huygens.knaw.nl/pdf/Broncommentaren/voorlopig/Broncommentaren_2-075_116.pdf.

⁹² Vulsma, *Burgerlijke stand en Bevolkingsregister*. pp. 73-75.

⁹³ A. Knotter, et al. 'De gemeentelijke bevolkingsregisters, 1850-1920', *Resources Huygens ING*, p. 90, 22 July 2018, http://resources.huygens.knaw.nl/pdf/Broncommentaren/voorlopig/Broncommentaren_2-075_116.pdf.

Record Linking

None of this is possible if the records from the day register cannot be linked to the population register. They can only be linked on names as names are recorded in both registers. However, record linking based on names could be problematic. To take my own last name as example, Bijsterbosch can also be written as Biesterbos, because my last name is pronounced differently in its original Dutch dialect. Even when dialect is not a problem, people sometimes used different versions of their names in different documents. For instance, there should be a creditor called Petrus Mattheus Daniels according to the day register, but the population register only contains a record about someone called Peter Matthijs Daniels.⁹⁴ Besides the dialect and different uses, the recorder had to know the correct way of writing every name and this was clearly a problem especially with foreign names. The German Johann Peter Dobbmann, for instance, has been recorded as Johannes Petrus Dobbmann in the day register, while the population register has maintained his original German first names.⁹⁵ Therefore, the day register and population register cannot just be linked based on name as it would undoubtedly result in type I and II errors.⁹⁶

To improve the record linking, a good first step is to ensure that the individuals retrieved from the day register could be linked to information in the population register. The population register only contains information about individuals living in Nijmegen or its vicinity, while the scope of the day register was far more extensive.⁹⁷ Therefore, the geographical scope of the day register must be limited to the scope of the population register as its scope cannot be expanded. Unfortunately, the day register does not provide geographical information about the creditor, debtor or the real estate. However, it does provide the name of the notary. It is not a stretch to assume that most citizens of Nijmegen used one of the notaries in the city to write the mortgage contract, while people living in the countryside used their own local notaries like C.C.A. van de Garde in Druten.⁹⁸ With this simple assumption, it is possible to distinguish individuals who live in Nijmegen and who are recorded in the population register from individuals who live in the surrounding villages and who are not recorded in

⁹⁴ Gelders Archief, archive number 1711, Kadaster en Bewaarders van de Hypotheken, inventory number 3099, Hypotheekregister 1 (Dagregister), Kantoor Nijmegen, 27-5-1878 / 21-4-1879, ID 493 and Regionaal Archief Nijmegen, archive number 679, Bevolkingsregisters van de gemeente Nijmegen 1818 – 1994, inventory number 33009, Bevolkingsregisters, 1880-1890, District A, Part 6, Page 144.

⁹⁵ Gelders Archief, archive number 1711, Kadaster en Bewaarders van de Hypotheken, inventory number 3099, Hypotheekregister 1 (Dagregister), Kantoor Nijmegen, 27-5-1878 / 21-4-1879, ID 472 and Regionaal Archief Nijmegen, archive number 679, Bevolkingsregisters van de gemeente Nijmegen 1818 – 1994, inventory number 32985, Bevolkingsregisters, 1870-1880, District D, Part 10, Page 82.

⁹⁶ A type I error is to link two records that should not have been linked. A type II error is to fail to link two records that should have been linked.

⁹⁷ Vos, *Het kadaster en de boekhouding op de hypothecken*. p. 330.

⁹⁸ Gelders Archief, archive number 0168, Notariële Archieven 1811-1925, inventory number 25, Standplaats Druten, ID 3, C.C.A. van de Garde.

the population register. While there are also non-citizens employing notaries in Nijmegen, it lowers their number. From the original 1476 mortgages recorded in the day register in 1879 and 1889, 581 mortgages have a higher chance of being linked to the population register as they employ notaries in Nijmegen.

With the second step, the first records are actually linked. During this step, the creditor and debtor will only be linked to a record in the population register when their names are written exactly the same in both registers. The person should also be older than 18 years and live independently from his or her parents, because they could have owned the necessary collateral for the mortgage. Lastly, there should only be one possible candidate in the population register which complies with the previous requirements. Only when these conditions are met, the records are linked and categorized as a category one link. The previously mentioned Johann Peter Dobbelsmann, for instance, is not added to this category as his name is written differently in both registers. On the contrary, there are three independent adults with the name Hendrikus van Kempen in Nijmegen.⁹⁹ Consequently, he is also not added to category one as it is impossible to know which Hendrikus van Kempen borrowed money from Bartholomeus van Laak. The 46-year-old Joseph Toussaint, however, is added to category one, because the only person with the exact same name is his 15-year-old son.¹⁰⁰ Even though institutions are not recorded in the population register, they have also been added to category one, because relevant information is often available for these institutions from mortgage banks to charitable organizations. While this strict method diminishes the chance of Type I errors, it probably results in many Type II errors, because even minor differences entail that the records from the day and population registers are disregarded.

Therefore, the third step acknowledges that there are independent adults with the exact same name like Hendrikus van Kempen. As it is not possible to distinguish between these individuals, it is impossible to add information from the population register to the dataset. However, to show that a possible connection existed, the link is classified as a category two link. The fourth step acknowledges that names are sometimes written differently. Only when it is not possible to find an exact match, some deviation is allowed between the names recorded in the day and population

⁹⁹ Gelders Archief, archive number 1711, Kadaster en Bewaarders van de Hypotheken, inventory number 3099, Hypotheekregister 1 (Dagregister), Kantoor Nijmegen, 27-5-1878 / 21-4-1879, ID 294 and Regionaal Archief Nijmegen, archive number 679, Bevolkingsregisters van de gemeente Nijmegen 1818 – 1994, inventory number 32943, Bevolkingsregisters, 1870-1880, District A, Part 6, Page 153, inventory number 32944, Bevolkingsregisters, 1870-1880, District A, Part 7, Page 56 and 32957, Bevolkingsregisters, 1870-1880, District B, Part 11, Page 19.

¹⁰⁰ Gelders Archief, archive number 1711, Kadaster en Bewaarders van de Hypotheken, inventory number 3099, Hypotheekregister 1 (Dagregister), Kantoor Nijmegen, 27-5-1878 / 21-4-1879, ID 274 and Regionaal Archief Nijmegen, archive number 679, Bevolkingsregisters van de gemeente Nijmegen 1818 – 1994, inventory number 32951, Bevolkingsregisters, 1870-1880, District B, Part 5, Page 16.

registers. The difference could be one letter or a different version of either the first or last name. Besides being added to category two, the difference in name is recorded in the dataset. At this stage of the linking process, individuals like Johann Peter Dobbeltmann are added to the dataset. The fifth step acknowledges that not each single person can be tracked in the population register due to a variety of reasons. Therefore, when a creditor or debtor from the day register cannot be linked to a person in the population register during the previous steps, the local civil registers are examined for possible links with the WieWasWie website.¹⁰¹ Like the population register, the civil registers are initially explored for exact matches. Even when only one exact match is tracked, like in the case of Martinus van Raaij, this link will still be added to category two as the WieWasWie website does not contain all civil registers.¹⁰² Consequently, this thesis cannot be entirely sure that there is no else with a similar name. When there is more than one match in the civil registers, it is also added to category two, but the dataset does not contain any more information. When there are no exact matches in the civil registers, some deviation is permitted between the day and civil registers.

The final step acknowledges that not everyone from the day register can be linked to either the population register or the civil registers. This could have various reasons. For instance, this thesis could have been too inflexible when connecting the registers. There could be creditors and debtors living outside of Gelderland. In certain cases, it was simply not possible to read the entire name recorded in the day register.¹⁰³ Regardless of the reasons, these individuals are classified as a category zero link.

TABLE 1: THE NUMBER OF LINKED CREDITORS

	Creditors	Range	Mode	Median	Average
Original: Day Register	1.476	f50 - f143.000	f1.000	f1.352	f3.394
Step 1: Nijmegen	581	f100 - f143.000	f2.000	f2.000	f4.243
<i>Surroundings</i>	<i>895</i>	<i>f50 - f10.000</i>	<i>f1.000</i>	<i>f1.000</i>	<i>f2.843</i>
Step 2: Perfect match (Category 1 link)	394	f100 - f143.000	f2.000	f2.000	f4.766
<i>Individuals</i>	<i>246</i>	<i>f100 - f24.000</i>	<i>f500</i>	<i>f1.600</i>	<i>f3.098</i>
<i>Institutions</i>	<i>148</i>	<i>f100 - f143.000</i>	<i>f3.000</i>	<i>f3.000</i>	<i>f7.558</i>

¹⁰¹ 'WieWasWie', Centrum voor familiegeschiedenis, 23 April 2018, <https://www.wiewaswie.nl/>.

¹⁰² Gelders Archief, archive number 1711, Kadaster en Bewaarders van de Hypotheken, inventory number 3099, Hypotheekregister 1 (Dagregister), Kantoor Nijmegen, 8-11-1887 / 12-12-1888, ID 1307 and Gelders Archief, archive number 0207, BS Geboorte, inventory number 3406, 4-12-1820, ID 24.

¹⁰³ Example: Gelders Archief, archive number 1711, Kadaster en Bewaarders van de Hypotheken, inventory number 3099, Hypotheekregister 1 (Dagregister), Kantoor Nijmegen, 8-11-1887 / 12-12-1888, ID 1373. His first name is Johannes, but his last name could not be deciphered.

Step 3-5: Imperfect match (Category 2 link)	103	f100 - f23.000	f1.000	f1.500	f2.556
<i>Multiple</i>	41	f100 - f23.000	f150	f1.000	f2.350
<i>Deviation</i>	24	f300 - f10.000	f2.000	f2.000	f3.021
<i>Civil Registry</i>	38	f100 - f11.000	f500	f1.500	f2.486
Step 6: Non-match (Category 0 link)	84	f150 - f70.000	f3.000	f2.000	f3.861
Dataset (Perfect and Imperfect match)	497	f100 - f143.000	f2.000	f2.000	f4.307
<i>1879</i>	210	f100 - f143.000	f3.000	f2.000	f4.490
<i>1889</i>	287	f100 - f50.000	f1.000	f2.000	f4.173

Source: Gelders Archief, archive number 1711, Kadaster en Bewaarders van de Hypotheken, inventory number 3099, Hypotheekregister 1 (Dagregister), Kantoor Nijmegen, 27-5-1878 / 21-4-1879, 21-4-1879 / 3-9-1879, 8-11-1887 / 12-12-1888 and 13-12-1888 / 25-12-1889 and Regionaal Archief Nijmegen, archive number 679, Bevolkingsregisters van de gemeente Nijmegen 1818 – 1994, inventory number 32936-33531, Bevolkingsregisters, 1870-1880 and 1880-1890.

TABLE 2: THE NUMBER OF LINKED DEBTORS

	Debtors	Range	Mode	Median	Average
Original: Day Register	1.476	f50 - f143.000	f1.000	f1.352	f3.394
Step 1: Nijmegen	581	f100 - f143.000	f2.000	f2.000	f4.243
<i>Surroundings</i>	895	f50 - f10.000	f1.000	f1.000	f2.843
Step 2: Perfect match (Category 1 link)	246	f100 - f143.000	f3.000	f3.000	f5.628
<i>Individuals</i>	242	f100 - f70.000	f3.000	f3.000	f5.050
<i>Institutions</i>	4	f1.000 - f143.000	-	f3.000	f55.500
Step 3-5: Imperfect match (Category 2 link)	243	f100 - f50.000	f1.000	f1.500	f3.195
<i>Multiple</i>	117	f100 - f24.000	f1.000	f1.100	f2.666
<i>Deviation</i>	39	f400 - f50.000	f3.500	f3.000	f5.305
<i>Civil Registry</i>	87	f100 - f25.000	f500	f1.600	f2.959
Step 6: Non-match (Category 0 link)	92	f200 - f35.000	f4.000	f1.500	f3.297
Dataset (Perfect and Imperfect match)	489	f100 - f143.000	f2.000	f2.000	f4.419
<i>1879</i>	204	f100 - f143.000	f2.000	f2.000	f4.481
<i>1889</i>	285	f100 - f70.000	f1.000	f2.000	f4.374

Source: Gelders Archief, archive number 1711, Kadaster en Bewaarders van de Hypotheken, inventory number 3099, Hypotheekregister 1 (Dagregister), Kantoor Nijmegen, 27-5-1878 / 21-4-

1879, 21-4-1879 / 3-9-1879, 8-11-1887 / 12-12-1888 and 13-12-1888 / 25-12-1889 and Regionaal Archief Nijmegen, archive number 679, Bevolkingsregisters van de gemeente Nijmegen 1818 – 1994, inventory number 32936-33531, Bevolkingsregisters, 1870-1880 and 1880-1890.

While the different categories and strict definitions could work in theory, are the links reliable in practice? Therefore, this thesis has done a minor experiment. Before deeds are handed to the cadastre, transcribed at their office and recorded in the day register, the original deed must be written by a notary. The deeds contain a variety of information, but, as mentioned, the copied deeds in the cadastre do not longer exist and the deeds in the notarial archives are not easily accessible. However, a few of the notarial archives have been made searchable by the regional archive in Nijmegen. In most cases, the search results only list the type of deed, the individuals involved and the date of when the deed was drafted. This is more than enough information to connect the deed in the notarial archive to the correct reference in the day register as it also provides names and the exact date of when the deed was drafted by a notary. The search results of the notarial archives of Sir van Voorst tot Voorst and Sir Hekking, however, also state the job titles of the creditors and debtors.¹⁰⁴ As a result of this abnormality, it is possible to connect job titles in the notarial archive to the creditors and debtors mentioned in the day register. The population register also records job titles. Thus, it becomes possible to examine if the link based on names has been done correctly by adding the job title to the linking process.

Between 1878 and 1879, Sir van Voorst tot Voorst wrote 13 mortgages, while Sir Hekking wrote 74 mortgages between 1888 and 1889. Their search results provided job titles for 74 unique creditors and debtors.¹⁰⁵ Of these 74 creditors and debtors, 46 had a unique job title - ranging from farmer, to shopkeeper to coppersmith - which is a relatively high percentage of unique job titles. This is most likely the result of the city setting as cities have a higher variety of jobs than the countryside. In 55 of the 74 cases, the job title exactly corresponded with the job title in the population registry. In 13 of the 74 cases in which the job title did not exactly correspond with the job title in the population registry, the difference was caused by the fact that certain job titles are used interchangeably for these specific individuals. The interchangeability of job titles was verified by examining the civil registers, which also records job titles on several moments. In 1 of the 74 cases, Sir Hekking explicitly recorded that Bernardus Antonius Erhartz was unemployed, but the population register recorded that he was a headmaster.¹⁰⁶ It is not clear which record is incorrect, but a deed of the notary

¹⁰⁴ Regionaal Archief Nijmegen, archive number 456, Notaris L.J.J.H.E. baron van Voorst tot Voorst Nijmegen 1871 – 1883 and Regionaal Archief Nijmegen, archive number 446, Notaris Th.F.A. Hekking Nijmegen 1883 – 1926.

¹⁰⁵ Ibidem.

¹⁰⁶ Gelders Archief, archive number 1711, Kadaster en Bewaarders van de Hypotheken, inventory number 3099, Hypotheekregister 1 (Dagregister), Kantoort Nijmegen, 8-11-1887 / 12-12-1888, ID 1022, Regionaal Archief Nijmegen, archive number 446, Notaris Th.F.A. Hekking Nijmegen 1883 – 1926, inventory number 186,

Halberstadt confirms that he has been employed as headmaster at one point in time.¹⁰⁷ In 1 of the 74 cases, the civil register explicitly recorded that Anna Sophia Erdamp was unemployed, while Sir van Voorst tot Voorst recorded that she was a farmer. It is very likely that the civil register is incorrect, because her husband had been a farmer.¹⁰⁸ However, he had passed away a few years before drafting the mortgage contract.¹⁰⁹ Therefore, if she was already not involved in the work on the farm, she probably inherited the farm from her husband. In 1 of the 74 cases, Sir Hekking recorded that Marianus Smits is a merchant, while the civil registers assert that he was a planter.¹¹⁰ According to a later notarial deed from the notary Courbois, however, he was apparently a merchant and a planter.¹¹¹ In 1 of the 74 cases, the population register is simply not up to date. In the population register, Hendrikus Gerhardus Cuipers was still an agent of beers, while Sir Hekking recorded that he was a coffeehouse owner.¹¹² The civil register confirms that Sir Hekking was correct and that Hendrikus Gerhardus changed jobs when the information in the population register was written down.¹¹³

In 2 of the 74 cases, there could be serious doubt if the connection has been done correctly. In the first problematic case, the civil register recorded that Nicolaas Albertus Wellen was a brewer, while the notary recorded that he was farmer.¹¹⁴ However, this problematic case is a good example of why the population register is preferred over the civil registers. This problematic case was registered only

9-7-1888 and Regionaal Archief Nijmegen, archive number 679, Bevolkingsregisters van de gemeente Nijmegen 1818 – 1994, inventory number 33020, Bevolkingsregisters, 1880-1890, District B, Part 2, Page 94.

¹⁰⁷ Regionaal Archief Nijmegen, archive number 445, Notaris Halberstadt Nijmegen 1875-1892, inventory number 334, 7-11-1877.

¹⁰⁸ Gelders Archief, archive number 1711, Kadaster en Bewaarders van de Hypotheken, inventory number 3099, Hypotheekregister 1 (Dagregister), Kantoor Nijmegen, 21-4-1879 / 3-9-1879, ID 348, Regionaal Archief Nijmegen, archive number 456, Notaris Van Voorst tot Voorst 1871-1883, inventory number 54, 12-5-1879 and Gelders Archief, archive number 0207, BS Geboorte, inventory number 5084, 5-2-1824, ID 11.

¹⁰⁹ Gelders Archief, archive number 0207, BS Overlijden, inventory number 5026, 3-7-1871, ID 64.

¹¹⁰ Gelders Archief, archive number 1711, Kadaster en Bewaarders van de Hypotheken, inventory number 3099, Hypotheekregister 1 (Dagregister), Kantoor Nijmegen, 13-12-1888 / 25-12-1889, ID 438, Regionaal Archief Nijmegen, archive number 446, Notaris Th.F.A. Hekking Nijmegen 1883 – 1926, inventory number 83, 20-3-1889 and Gelders Archief, archive number 0207, BS Geboorte, inventory number 4851, 3-1-1834, ID 2.

¹¹¹ Regionaal Archief Nijmegen, archive number 442, Notaris Courbois Nijmegen 1884-1927, inventory number 3274, 11-10-1897.

¹¹² Gelders Archief, archive number 1711, Kadaster en Bewaarders van de Hypotheken, inventory number 3099, Hypotheekregister 1 (Dagregister), Kantoor Nijmegen, 13-12-1888 / 25-12-1889, ID 780, Regionaal Archief Nijmegen, archive number 446, Notaris Th.F.A. Hekking Nijmegen 1883 – 1926, inventory number 172, 14-5-1889 and Regionaal Archief Nijmegen, archive number 679, Bevolkingsregisters van de gemeente Nijmegen 1818 – 1994, inventory number 33041, Bevolkingsregisters, 1880-1890, District C, Part 1, Page 12.

¹¹³ Gelders Archief, archive number 0207, BS Geboorte, inventory number 1022, 7-1-1878, ID 11, inventory number 1024, 7-2-1880, ID 90 and inventory number 1025, 11-10-1881, ID 683.

¹¹⁴ Gelders Archief, archive number 1711, Kadaster en Bewaarders van de Hypotheken, inventory number 3099, Hypotheekregister 1 (Dagregister), Kantoor Nijmegen, 27-5-1878 / 21-4-1879, ID 150, Regionaal Archief Nijmegen, archive number 456, Notaris Van Voorst tot Voorst 1871-1883, inventory number 139, 3-7-1878 and Gelders Archief, archive number 0207, BS Overlijden, inventory number 6170, 26-9-1881, ID 35.

two times in the civil registers, when the individual was born and when he died. His job title of brewer, however, was only registered when he died. Between when he arranged a mortgage and his death, he could have changed jobs. He could have even used the mortgage to change from farmer to brewer. In the other case, however, the link is clearly incorrect. Gradus Rutten was a bricklayer according to the Sir Hekking, but he has been connected to someone in the population register with the same name who was a farmer.¹¹⁵ While there is no else with the name Gradus Rutten in the population register, the civil register has recorded a few individuals with the name Gradus Rutten of which one is a bricklayer.¹¹⁶

TABLE 3: THE NUMBER OF LINKED CREDITORS AND DEBTORS

	Creditors	Debtors	Creditors and Debtors	Range	Mode	Median	Average
Original	1.476	1.476	1.476	f50 - f143.000	f1.000	f1.352	f3.394
Nijmegen	581	581	581	f100 - f143.000	f2.000	f2.000	f4.243
Dataset	497	489	419	f100 - f143.000	f2.000	f2.000	f4.538

Source: Gelders Archief, archive number 1711, Kadaster en Bewaarders van de Hypotheken, inventory number 3099, Hypotheekregister 1 (Dagregister), Kantoor Nijmegen, 27-5-1878 / 21-4-1879, 21-4-1879 / 3-9-1879, 8-11-1887 / 12-12-1888 and 13-12-1888 / 25-12-1889 and Regionaal Archief Nijmegen, archive number 679, Bevolkingsregisters van de gemeente Nijmegen 1818 – 1994, inventory number 32936-33531, Bevolkingsregisters, 1870-1880 and 1880-1890.

With a 97% or 99% success rate, the experiment shows that linking on name does not result in many type I errors due to the strict conditions. Despite the introduction of the more relaxed category two links, there is still a substantial number of cases in category zero, which could point to a selection bias and type II errors. The cases in category zero, however, seem to be a random selection from the 581 mortgages arranged in Nijmegen. With a p-value of 0.6, the t-test confirms that the averages of the dataset and Nijmegen are not significantly different. In all likelihood, category zero consist of people living outside of the scope of the sources and whose names are written in a manner that this thesis could not envision. However, the table 3 shows that the dataset is not representative for the original 1476 cases. With a p-value of 0.04, the t-test confirms that impression. However, this problem did not occur during the linking process, but it has been the result of separating the city of Nijmegen from its surroundings. Therefore, it is important to be aware that this thesis discusses a

¹¹⁵ Gelders Archief, archive number 1711, Kadaster en Bewaarders van de Hypotheken, inventory number 3099, Hypotheekregister 1 (Dagregister), Kantoor Nijmegen, 13-12-1888 / 25-12-1889, ID 326, Regionaal Archief Nijmegen, archive number 446, Notaris Th.F.A. Hekking Nijmegen 1883 – 1926, inventory number 58, 25-2-1889 and Regionaal Archief Nijmegen, archive number 679, Bevolkingsregisters van de gemeente Nijmegen 1818 – 1994, inventory number 33070, Bevolkingsregisters, 1880-1890, District E, Part 4, Page 98.

¹¹⁶ Gelders Archief, archive number 0207, BS Overlijden, inventory number 6269, 30-4-1896, ID 35.

city. The surrounding villages, for instance, depend less on institutions. While Nijmegen arranges 148 mortgages with institutional creditors, the surroundings villages arrange 10 more mortgages through institutional creditors, despite the fact that the surrounding villages acquired 314 more mortgages than the city of Nijmegen. In small villages, the people probably could depend or needed to depend more on rich individuals in their vicinity. However, while the mortgage markets in Nijmegen and its surroundings have a different composition, the components seem similar.

Institutions

While this thesis focuses on mortgages arranged between private individuals, the important role of institutions on the mortgage market should not be forgotten. In the 19th century, this role was considerably smaller than in the present day, but it was still 40% in the dataset.¹¹⁷ Besides this substantial market share, it is also necessary to discuss the advantages and disadvantages of institutions in relation to intermediaries and individuals and to understand in which ways they could compete with institutions. In this thesis, a creditor or debtor is considered an institution when the day register has not recorded a name of a private individual. Subsequently, these institutions are separated into mortgage banks, financial institutions and financiers as they acquired funding through different methods. Due to legislation, mortgage banks needed to sell mortgage bonds to acquire funds. The same legislation, however, also prohibited any other financial institutions from selling mortgage bonds. Consequently, financial institutions needed to depend on their own equity or deposits. Financiers obtained funds from donations or providing another service like insurance. They did not arrange mortgages as a primary objective, but only arranged mortgages to fund their primary objective. Due to the legislative distinction, mortgage banks provided relatively few, but also relatively large mortgages. Financial institutions were able to provide more mortgages than mortgage banks, but competition from the prolongatie system on the short-term credit and deposit market limited their market share on the mortgage market. Financiers provided relatively many small mortgages, but, as their organisations were not primarily interested in the mortgage market, their available funds depended on the money necessary to achieve their primary objective. Despite this internal variation, institutions still competed with intermediaries and individuals.

Mortgage Banks

There is a range of institutions active on the mortgage market, but only mortgage banks were specifically designed for the mortgage market. In the Netherlands, however, they were also limited to the mortgage market, because, without this limitation, the Dutch department of justice, the association for security traders and the *Rijkspostspaarbank* (National Postal Savings Bank) would not provide the necessary cooperation.¹¹⁸ To lower the personal liability of their investors, mortgage banks were joint-stock companies, but this legal entity required the authorisation of the Dutch department of justice. Without the authorisation, Dutch courts would have upheld the personal liability. Therefore, the department of justice could stipulate strict conditions for their authorisation. Mortgage banks should limit their financial services to issuing mortgage bonds and arranging mortgages. These mortgages could also not exceed 75% of the estimated property value and, in

¹¹⁷ Original; See chapter "Data".

¹¹⁸ Glasz. *Hypotheekbanken*, pp. 23-32.

cases of default, the mortgage bank should be repaid first before any other creditors. However, after authorisation was granted, the department of justice did not ensure that these rules were actually followed. Consequently, to safeguard investors, the association of security traders - the biggest seller of mortgage bonds - and the National Postal Savings Bank - the biggest buyer of mortgage bonds - started to inspect mortgage banks. Mortgage banks could not refuse their inspections, because it would immediately result in financial problems. Until the 1980s, mortgage banks were the only institutions that could sell mortgage bonds throughout the year, but, besides the equity from the stockholders and some loans, it was also their only way of acquiring funds.¹¹⁹ They could not collect deposits, because, in cases of bankruptcy, mortgage bond owners and depositors had an equal right on being repaid under Dutch law.¹²⁰ Consequently, mortgage repayments would also flow to depositors, despite the fact that they had not paid for a bond backed by a mortgage. Therefore, the association of security traders and the National Postal Savings Bank could use their positions as the biggest seller and buyer to limit mortgage banks to the mortgage market.

Within these limitations, mortgage banks were founded. After spending 20 years of his life seeking out investors, Philip Bachiene founded the National Mortgage Bank in 1861, which was the first mortgage bank in the Netherlands.¹²¹ The German cooperative mortgage associations had inspired him, but, without similar legislative support from the Dutch government, his mortgage bank became a joint-stock company. His example was quickly followed by the founding of the *Rotterdamsche Hypotheekbank* (Rotterdam Mortgage Bank) in 1864, but, afterwards, it remained silent for 13 years until the founding of the *Hollandsche Hypotheekbank* (Holland Mortgage Bank) in 1877. Its founding was the beginning of a period of considerable expansion in the number and size of mortgage banks in 1880s and 1890s. Before the expansion, mortgage banks controlled less than 10% of the market, but it would peak around 45% in 1905.¹²² After 1905, their expansion ceased and their market share even went into decline for a period. The literature argues that a series of events was responsible for this decline in market share. For instance, the real estate market went into decline after the introduction of new building regulations in 1901, which dragged down the mortgage market.¹²³ On top of these building regulations, speculation had inflated the real estate and mortgage markets in the preceding years. Finally, two mortgage banks got embroiled in corruption scandals during this downturn. Only

¹¹⁹ Koelewijn. 'De achtergronden van het verdwijnen van de zelfstandige hypotheekbanken', p. 23.

¹²⁰ Glasz. *Hypotheekbanken*, p. 25.

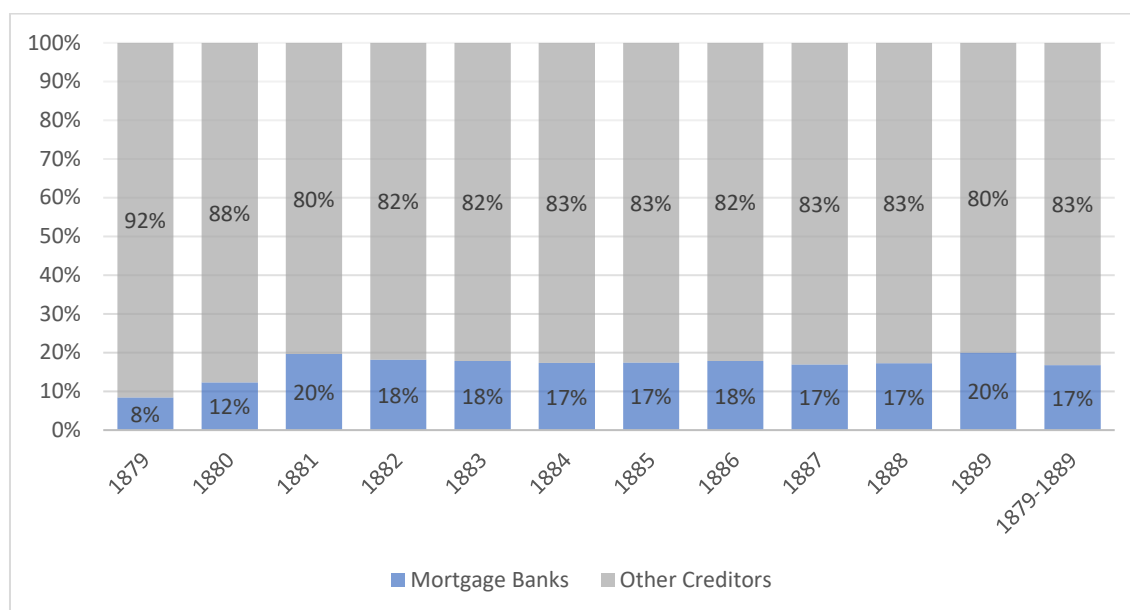
¹²¹ Klein and Vleesenbeek, 'De geschiedenis van het hypotheekbankwezen', p. 10.

¹²² Bochove and Hasken, 'The modernization of credit markets'.

¹²³ Glasz. *Hypotheekbanken*, p. 9.

two mortgage bank directors had altered accounts and contracts, but they damaged the reputation of all mortgage banks.¹²⁴

FIGURE 10: MARKET SHARE OF MORTGAGE BANKS AND OTHER CREDITORS IN THE NETHERLANDS



Source: C. van Bochove and E. Hasken, 'The modernization of credit markets: How private lenders disappeared from the Dutch mortgage market, 1860-2000' Working Paper, Radboud University, 2018.

While mortgage banks are national institutions, they developed slightly differently in Nijmegen. The mortgage banks had no office in Nijmegen. Instead, they appointed representatives in Nijmegen. They chose locals who had access to financial information and had experience in the local financial system. The Rotterdam Mortgage Bank, for instance, appointed the local firm *Noorduijn & Zonen* in 1871 and the Holland Mortgage Bank appointed the local bank association *Van Engelenburg & Schippers* in 1893.¹²⁵ Based on advertisements in the local newspapers, the Holland Mortgage Bank seems to have no representative before appointing the bank association *Van Engelenburg & Schippers*. Despite the absence of representation, eight debtors turned to the Holland Mortgage Bank for their mortgages in 1878-1879.¹²⁶ Either these individuals have travelled to a representative of the Holland Mortgage Bank in another city or they have hired their own representative to arrange the mortgage for them. With the information from the dataset, it cannot be definitively determined which method was used, but it should be noted that seven of the eight debtors employed the notary Halberstadt to write the mortgage contract. This is noteworthy in comparison to other large

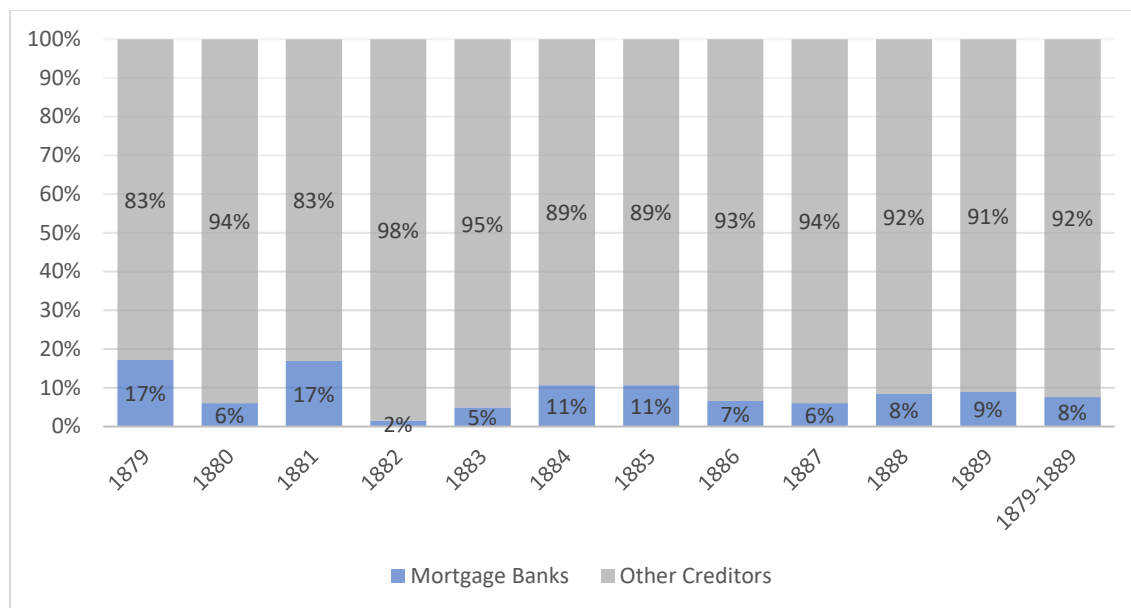
¹²⁴ 'Strafzaak Holl. Hypotheekbank' *Provinciale Overijsselsche en Zwolsche courant*, 23 November 1906, p. 7 and 'ZuidHoll. Hypotheekbank' *De Tijd: godsdienstig-staatkundig dagblad*, 24 September 1906, p. 2.

¹²⁵ 'De Rotterdamsche Hypotheekbank voor Nederland' *PGNC: Provinciale Geldersche en Nijmeegsche Courant*, 13 September 1871, p. 2 and 'De Hollandsche Hypotheekbank te Amsterdam' *PGNC: Provinciale Geldersche en Nijmeegsche Courant*, 3 februari 1893, p. 2.

¹²⁶ Dataset; See chapter "Data".

institutional creditors like the *Nijmegen Spaarbank* (Nijmegen Savings Bank) as a higher variety of notaries wrote their mortgage contracts. Therefore, notary Halberstadt was maybe an intermediary between the Holland Mortgage Bank and the debtors. Despite the representation, the market share of mortgage banks in Nijmegen and its surroundings is very volatile between 1879 and 1889. The relatively small size of the Nijmegen mortgage market in comparison to the national market is mainly responsible for this volatility. There is not always demand for the relatively large mortgages from the mortgage banks, but, when there is demand, it immediately has a big impact on their market share in Nijmegen.¹²⁷

FIGURE 11: MARKET SHARE OF MORTGAGE BANKS AND OTHER CREDITORS IN NIJMEGEN AND ITS SURROUNDINGS.



Source: Departement van Financiën, *Statistiek van het grondcrediet in Nederland*, Departement van Financiën, 1879-1890.

In the short run, the volatility, the corruption scandals and other events are perfectly good explanations for a small market share or a temporary declining trend. In the long run, however, they do not explain the continued marginal position after 1905. Of course, the literature mentions other short-term events like World War I and the Great Depression that influenced the mortgage market negatively, but, for an institution often described as being better than its competitors, it was reasonably fragile.¹²⁸ The literature is correct when it states that mortgage banks had advantages over their competitors. For instance, mortgage bonds gave investors the option to liquidise their long-term investment, because an anonymous bond could be sold far more easily than a mortgage contract in which the creditor and debtor were specified. As an imperfect solution, older mortgage contracts often contained a provision in which creditors were granted the right to reclaim their

¹²⁷ See Table 4.

¹²⁸ Glasz. *Hypotheekbanken*, p. 7-22.

investment prematurely.¹²⁹ Mortgage bonds were also not specifically connected to specific mortgages, which meant that every mortgage backed every bond. If one debtor defaulted on his or her mortgage, a mortgage bank could still repay its bondholders with the repayments of thousands of other mortgages. A single creditor lending directly to a single debtor would have lost his or her investment in this situation. With these lower risks, mortgage banks could take on more risks in other ways. For example, mortgage banks could invest in larger mortgages for longer terms than individual creditors. Mortgage bonds spread the risk of larger mortgages over all bondholders and, while individual investors could always opt out by selling their bonds, the mortgage banks continually collected the repayments.

However, these advantages also came at a cost. Mortgage banks were relatively expensive.¹³⁰ While mortgage bonds were considered safe investments, they had to provide a return on investment comparable to Dutch governments bonds, which floated around 3.5% between 1879 and 1889.¹³¹ On top of this 3.5%, mortgage banks had to overhead and profit to their interest rate. However, the margin was very slim as mortgage interest rates floated around 4.5%.¹³² To increase their margins, mortgage banks developed a preference for larger mortgages as it lowered overhead cost per lent gulden.¹³³ In the original dataset, mortgage banks did not arrange any mortgage below f1.000, despite the fact that 38% of mortgages were lower than f1.000.¹³⁴ However, besides attempts to increase their small margins, the absence of small mortgages could also be the result of insufficient information. Mortgage banks had no pool of depositors or clients in which they could find reliable debtors. There were also no national credit bureaus in which someone's financial reliability could be verified. Furthermore, mortgage banks could not easily estimate local real estate prices as there was no readily available information. The unavailability of this information is especially problematic for mortgage banks as they could not lend more than 75% of the real estate value. To solve this problem, the national mortgage bank association would eventually create a list of individuals who could reliably estimate property prices.¹³⁵ Therefore, mortgage banks did not expand in the long run, because they were only a better option for certain specific debtors. Consequently, the mortgage banks only provided 28 mortgages in the original dataset, but they had a combined value of f447.400, which is 10% of the total mortgage market.¹³⁶

¹²⁹ P. Bachiene. *Over eene Nederlandsche hypotheekbank*. Belinfante, 1855, pp. 26.

¹³⁰ Glasz. *Hypotheekbanken*, p. 45-46.

¹³¹ Jonker. 'The alternative road to modernity: banking and currency', p. 111.

¹³² Bochove and Hasken, 'The modernization of credit markets'.

¹³³ Glasz. *Hypotheekbanken*, p. 44.

¹³⁴ See Table 4 and Original; See chapter "Data".

¹³⁵ Glasz. *Hypotheekbanken*, p. 27.

¹³⁶ See Table 4.

Financial institutions

Mortgage banks were not the only financial institutions. While mortgage banks are financial institutions, they are in a separate category, because they are funded differently. Mortgage banks receive most of their funding through mortgage bonds, but other financial institutions like deposits banks or firms were not allowed to sell bonds. Consequently, they needed to rely more on their equity or they had to take deposits. However, it should be reiterated that, in exchange for their advantageous position on the bond market, mortgage banks were not allowed to take deposits. The practice of giving someone else money in trust is very old. In the Netherlands, for instance, the *Amsterdamsche Wisselbank* (Bank of Amsterdam) opened in 1609 and it even has predecessors. However, these banks earned most of their revenue from commissions charged on keeping deposits and recording transactions. Lending and borrowing were not a main source of revenue. In the 19th century, several attempts were made to change the status quo in the Netherlands. Based on British example, several banks and firms started to pay interest on deposits and focus more on earning revenue from interest on loans.¹³⁷ While they focused more on short-term loans to match their short-term deposits, they were active on the mortgage market.

On the national scale, prospective debtors could turn to several banks like the Twente Bank and *Rotterdamsche Bank* (Rotterdam Bank), but these banks were not very active on the Nijmegen mortgage market. In the dataset, the Rotterdam Bank had only one debtor in Nijmegen in 1879.¹³⁸ Local banks and firms were far more active on the mortgage market like the Nijmegen Savings Bank. The *Maatschappij tot Nut van t'Algemeen* (Society for Public Welfare) founded the first savings bank in 1817.¹³⁹ This national society intended to improve the well-being of the Dutch and Dutch society. The savings bank was seen as an instrument to teach people the value of saving and the risks of borrowing. These high ideals, however, did not save the first savings bank from bankruptcy in 1833. The savings bank reopened in 1850 after 7 years of extensive research about the flaws of the first savings bank. This extensive research was apparently done properly as the Nijmegen Savings Bank would exist independently until 1969. The bank started small with 32 savers, who had on average f80,78 on their accounts, and slowly grew to 2443 savers in 1900, who had saved f337,93 on average. This client base was large enough to lend little over f100.000 to 50 individuals in the original dataset.¹⁴⁰

¹³⁷ Jonker. 'The alternative road to modernity: banking and currency', pp. 100-102 and 117.

¹³⁸ Dataset; See chapter "Data".

¹³⁹ Vries, *Nieuw Nijmegen, 1870-1970*, pp. 92-95.

¹⁴⁰ Original; See chapter "Data".

With 50 mortgages, the Nijmegen Savings Bank is the largest contributor to the 177 mortgages arranged by financial institutions.¹⁴¹ However, the total value of its mortgages adds relatively little to the f1.104.483 borrowed from financial institutions. Besides lending more to more people than mortgage banks, financial institutions also lend amounts smaller than f1.000 without neglecting the larger mortgages. Their mortgages range from the small f100 to the large f80.000. Consequently, their 22% market share is also 12% higher than the market share of mortgage banks. Why, then, was the market share of financial institutions not even higher? Relatively high costs and lack of information dragged mortgage banks down. Financial institutions, however, had resolved these issues to a certain extent. While interest was payed to depositors, the rate was not as high as mortgage banks payed to investors.¹⁴² In the case of information, savings banks knew the saving behaviour of their depositors and firms had clients from other financial transactions. Neither interaction provides perfect information, but they provide some insight in someone's financial situation.

While the 22% market share of financial institutions is anything but marginal, why is it still only 22% despite the fact that the first savings bank was founded 60 years before the research period?¹⁴³ The literature notes that Dutch banks and firms fall short when compared to their British counterparts. For instance, the capital-assets ratios of Dutch banks were still above 30% in 1890, while the British capital-assets ratios had already dropped to 14% in the 1870s.¹⁴⁴ Therefore, it was either difficult to lend money, which would result in fewer assets, or hazardous to lend money to individuals, which would result in a high amount of capital to account for risks. Regardless of the exact explanation, the problems of Dutch financial institutions are connected to the unique *prolongatie* system.¹⁴⁵ In this system, potential depositors lend to debtors with securities as collateral on the Amsterdam stock market through various intermediaries. The *prolongatie* system was so efficient and so competitive that 400 million gulden was borrowed through this system, which was double the total amount of fixed deposits in the hands of commercial banks. Therefore, while financial institutions provided mortgages, the *prolongatie* system halted the development of their core business of short-term deposits and credit. Consequently, financial institutions probably had to limit their activities on the mortgage market, because they needed a stable base of short-term deposits before they could enter the long-term mortgage market.

¹⁴¹ Original; See chapter "Data" and See Table 4.

¹⁴² Glasz. *Hypotheekbanken*, pp. 36 and 38.

¹⁴³ See Table 4.

¹⁴⁴ Jonker. 'The alternative road to modernity: banking and currency', pp. 116-117.

¹⁴⁵ Ibidem, pp. 102, 115 and 119.

Financiers

While mortgage banks and financial institutions arranged most mortgages, some mortgages were arranged by institutions that do not fit either label. Therefore, the last category of institutional creditors is labelled as financiers. While financiers provide mortgages like mortgage banks and financial institutions, it is not their primary objective. For instance, when the mortgage is taken away from the mortgage bank, there is no reason for the continued existence of the mortgage bank. However, when the mortgage is taken away from a financier like the local orphanage, it still has a reason for continued existence.¹⁴⁶ The local orphanages still need to care for the orphans. They were only active on the mortgage market to make a profit with which they could feed the children and maintain their buildings. This subtle difference does not change the economic behaviour of financiers fundamentally, because, like mortgage banks and financial institutions, they still pursue a profit. However, while mortgage banks and financial institutions had to attract depositors, shareholders and bondholders with dividends and interest rates to fund their endeavours on the mortgage market, financiers attracted their money from donors who wanted to support their primary goal.

The dataset also contains the financier called the *Gasthuis*. It has been renamed and reorganized throughout its history, but, from its inception in the middle ages, the primary objective was to care for the poor and the sick in Nijmegen.¹⁴⁷ Throughout its history, it has acquired funds through donations from local citizens, but these donations were not immediately spent on helping the poor and the sick.¹⁴⁸ The amount of donations could fluctuate in the short-term, which would jeopardize the long-term commitment to help the poor and the sick. Therefore, the board and donors agreed to invest these funds.¹⁴⁹ To decrease the risks, the funds were invested in a variety of financial products. Consequently, only a part of their funds was invested on the mortgage market. Despite this limitation, the *Gasthuis* still lends f56.000 to 6 borrowers in the dataset, which is more than certain mortgage banks.¹⁵⁰ However, even if every gulden was invested in the mortgage market, the primary objective would still limit the funds. The donors only contributed funds to the *Gasthuis* to take care of the sick and poor. They would have been furious if there were no funds left to run the *Gasthuis*.

On the one hand, financiers like the *Gasthuis* did not have to pay interests over their funds or pay out dividends to their stockholders. On the other hand, these cheaper funds were only available to them, because, in the case of the *Gasthuis*, they cared for the sick and the poor. Without this primary

¹⁴⁶ Dataset; See chapter "Data".

¹⁴⁷ J. Keijser, et al. *Het Oud Burgeren Gasthuis Te Nijmegen: 1592-1992*. Gemeentearchief, 1992, pp. 9-18.

¹⁴⁸ A. Lammerts van Bueren. *Het Oud-Burgeren Gasthuis Te Nijmegen: Van Middeleeuws Gesticht Tot Modern Tehuis*. Oud-Burgeren Gasthuis, 1967, pp. 36-37

¹⁴⁹ Ibidem, pp. 67-69 and Keijser. *Het Oud Burgeren Gasthuis Te Nijmegen*, pp. 61-66.

¹⁵⁰ Dataset; See chapter "Data".

objective, they would not have received any of these funds. Consequently, the money saved on interests and dividends was mostly or completely spent on the sick and the poor. There was also only so much money necessary to care for the sick and the poor. Therefore, the available funds are limited to the funds necessary to achieve the primary objective. In the research period, this seems to have limited the role of financiers on the Nijmegen mortgage market, because they only provided 9% of mortgage credit. Despite this limited role, financiers were able to provide relatively many small mortgages. In the beginning of the 20th century, however, the role of financiers probably expanded as insurers became big players on the mortgage market.¹⁵¹ Insurers would be classified as financiers, because their primary objective is insurance. While they invested the funds on the mortgage market to increase their profitability, the primary objective and the source of the funds determines the category in which an institution is placed.

Conclusion

To summarize, due to Dutch legislation, mortgage banks were relatively expensive as they had to accumulate most of their funds with mortgage bonds. Consequently, mortgage banks arranged very few mortgages. However, the value of each mortgage was comparatively high as it lowered overhead costs per lent gulden. Mortgage banks were well-equipped to manage the risks involved with these larger mortgages as they could depend on the repayments of hundreds of mortgages. This line of argument has already been discussed since *Hypotheekbanken En Woningmarkt in Nederland* written by C. Glasz in 1935. While the data about the Nijmegen mortgage market reaffirms the correctness of this argument, this thesis argues that access to information also played an important role. In contrast to other financial institutions, mortgage banks did not have a separate pool of depositors or clients from which they could obtain information about potential debtors. Furthermore, as there was no easily accessible information about local real estate prices, mortgage banks needed to hire local estimators as they were not allowed to lend more than 75% of the value of the real estate. Consequently, this lack of information would have resulted in more expenses for mortgage banks.

In many ways, financial institutions are an improvement on mortgage banks. While financial institutions were forbidden from selling mortgage bonds, they could take deposits, which had lower interest rates than mortgage bonds. These depositors could also become more easily future debtors as the financial institutions had access to their financial information. Despite the fact that financial institutions had a larger market share than mortgage banks, what limited their market share to only 22%? The literature mentions that Dutch financial institutions faced stiff competition from the unique *prolongatie* system through which 400 million gulden was lent and borrowed. While this

¹⁵¹ Glasz. *Hypotheekbanken*, pp. 37-38.

competition has been related to the higher capital-assets ratios of Dutch banks, the literature does not connect the competition to a smaller presence on the mortgage market. However, this thesis reasons that financial institutions needed to limit their activities on the mortgage market, because the *prolongatie* system halted the development of their core business of short-term deposits and credit. Consequently, they could not acquire the stable base of short-term deposits for entering the long-term mortgage market.

The financiers are a collection of various institutions from churches to a brewer to the local orphanage. However, their defining feature is the fact that they do not provide mortgages as a primary objective. They provide mortgages to fund their primary objective. The local orphanage, for instance, was primarily concerned about the orphans. It only provided mortgages to make a profit with which they could maintain the orphanage. While financiers like the orphanage have access to a cheaper funds like donations, the primary objective limits their market share, because their primary objective only needs a certain amount of funds and a part of the available fund must be spent on the primary objective. While it is clear that financiers like the orphanage invested funds in the mortgage market, there are still many open questions. For instance, how could a debtor borrow money from an orphanage? Did the board select debtors or was an intermediary hired? Despite this unclarity, financiers clearly played a substantial role on the Nijmegen mortgage market. However, as financiers have been given little attention in the literature, it is not clear if their market share in Nijmegen is anomaly due to its medieval heritage.

TABLE 4: MORTGAGE MARKET SHARE OF INSTITUTIONS

	Cases	Range	Mode	Median	Average	Total
Original	1.476	f50 - f143.000	f1.000	f1.352	f3.394	f5.002.359
Institutions	306	f100 - f143.000	f1.000	f2.000	f6.628	f2.021.639
<i>Mortgage Banks</i>	28	f1.000 - f143.000	f5.000	f5.000	f17.050	f477.400
<i>Financial Institutions</i>	177	f100 - f80.000	f1.500	f2.200	f6.240	f1.104.483
<i>Financiers</i>	101	f100 - f75.000	f400	f1.350	f4.398	f439.757
Nijmegen	581	f100 - f143.000	f2.000	f2.000	f4.243	f2.460.678
Institutions Nijmegen	147	f100 - f143.000	f10.000	f3.000	f7.558	f1.111.050
<i>Mortgage Banks</i>	10	f1.000 - f143.000	f3.000	f3.750	f19.490	f194.900
<i>Financial Institutions</i>	98	f100 - f75.000	f10.000	f4.000	f7.105	f696.300
<i>Financiers</i>	39	f150 - f35.000	f400	f2.000	f5.637	f219.850
Surroundings	895	f50 - f10.000	f1.000	f1.000	f2.843	f2.541.681
Institutions Surroundings	158	f100 - f100.000	f1.000	f1.400	f5.763	f910.589

<i>Mortgage Banks</i>	18	<i>f1.000 - f100.000</i>	<i>f5.000</i>	<i>f7.000</i>	<i>f15.694</i>	<i>f282.500</i>
<i>Financial Institutions</i>	79	<i>f113 - f80.000</i>	<i>f1.000</i>	<i>f1.200</i>	<i>f5.167</i>	<i>f408.183</i>
<i>Financiers</i>	61	<i>f100 - f75.000</i>	<i>f600</i>	<i>f1.150</i>	<i>f3.605</i>	<i>f219.907</i>

Source: Original; See chapter "Data".

Institutions had many advantages, which became more pronounced in the 20th century, but their disadvantages held them back in the 19th century. However, the development of the mortgage market is not a narrative exclusively centred around the inner conflict in institutions between their advantages and disadvantages. If institutions were the only options for arranging a mortgage, they would have arranged more than 21% of the total number of mortgages. They would also have been worth more than 40% of the total value of the mortgage market. Instead, the narrative should centre around competition between institutions, intermediaries and individuals. In the 19th century, this competition still arranged 79% of all mortgages, which represented 60% of the total value of the mortgage market. Subsequent chapters analyse this competition.

Intermediaries

While the literature mentions many intermediaries, this thesis focuses on notaries, despite the fact that two recent studies already concluded that notaries did not intermediate.¹⁵² In the first part of this chapter, their arguments are countered. The inadequate alphabetical ledgers, for example, are actually adequate, but an imperfect method of tracing financial information about specific individuals in the notarial archives. The advertisements for mortgages in the newspapers do not suggest that notaries did not intermediate. Instead, they show that, in specific cases, notaries occasionally needed to find debtors outside of their client circle. The plentiful supply of licensed notaries did not entail an overcompetitive market due to an abundance of notaries, because they still had to be appointed by authorities. While notaries were unimportant in the Dutch financial system prior to the Napoleonic era, legislative changes improved their situation. The presence of a cadastre made any monopolization of information about ownership of, possession of and claims on real estate impossible, but more information is necessary to arrange mortgages. In the second part of this chapter, this thesis provides three independent arguments that support the hypothesis that notaries were intermediaries for creditors and debtors on the Dutch mortgage market. Firstly, creditors and debtors went consistently to the notary who had written the most deeds for them, which was automatically also the notary who could have been the best intermediary. Secondly, due to legislative changes after the Napoleonic era, only notaries could write mortgage contracts and, besides court clerks and bailiffs, only notaries could publicly sell real estate. Therefore, notaries were well positioned to become intermediaries as they already needed to be involved in the process of arranging a mortgage and they could provide important information like the real estate value. Thirdly, contemporary sources reaffirm that notaries were intermediaries on the Dutch mortgage market.

Five counterarguments

The master thesis *De Notaris en Asymmetrische Informatie* written by Ton van Raaij argues that notaries were not intermediaries as they could not fully access the information in their notarial archives.¹⁵³ This information was valuable on the mortgage market as the thousands of deeds could be used to estimate the financial reliability of specific creditors and debtors. However, without a proper ledger, it is impossible to find information about specific creditors and debtors in the notarial archive. There were two types of ledgers, but they were both inadequate according to *De Notaris en Asymmetrische Informatie*. The chronological ledger is very detailed about the specific deeds in the

¹⁵² Raaij, 'De notaris en asymmetrische informatie' and Gelderblom, Hup and Jonker 'Public Functions, Private Markets'.

¹⁵³ Raaij, 'De notaris en asymmetrische informatie', pp. 61-64.

archive, but various deeds of the same person were scattered throughout the ledger. Therefore, this ledger was not used to estimate the financial reliability of a specific creditor or debtor. The alphabetical ledger did not scatter its information as all deeds of the same person were collected together. However, the alphabetical ledger is incomplete. While the chronological ledger recorded every person involved in a deed, the alphabetical ledger connects every deed to only one person. Due to this loss of information, the alphabetical ledger was not very useful as certain individuals in the notarial archive were not recorded in the ledger.

This line of argument, however, assumes perfection. In its historical state, the alphabetical ledger was clearly designed to find deeds about specific individuals in the notarial archive. When the incompleteness is briefly ignored, this ledger would have worked perfectly for gathering information about potential creditors and debtors in the notarial archive. However, this conclusion is not drawn, because the ledger does not contain every name. While the alphabetical ledger could be theoretically improved, improvement requires investment. Investment requires time and resources, which a notary maybe did not have or want to invest. Since a notary office often only consisted of a notary, a candidate notary and a clerk, it would have been a big investment to spend extra time on improving the alphabetical ledger.¹⁵⁴ Instead of using perfection to determine the purpose of the alphabetical ledger, the changes might be more revealing. If the alphabetical ledger becomes gradually more complete, it would support the hypothesis that the ledger is used to find potential creditors and debtors. As alphabetical ledgers did not have to be preserved, *De Notaris en Asymmetrische Informatie* could only analyse three alphabetical ledgers of the notary Courbois. The alphabetical ledgers of 1864 and 1873 were exactly the same, but the ledger of 1875 was more detailed than the previous versions as it provided a categorization for every deed.¹⁵⁵ While the 1875 alphabetical ledger was still not perfect, it was clearly an improvement. Therefore, the alphabetical ledger should be considered adequate as it provided access to information about specific individuals in the notarial archives.

This is, of course, not the only argument in *De Notaris en Asymmetrische Informatie*. The second argument is based on newspaper advertisements.¹⁵⁶ There are several advertisements in which the notary Courbois requests potential debtors to come to his office as he had mortgage credit available ranging from f10.000 to f40.000. If the notary Courbois is an intermediary, then this is odd behaviour, because he should find potential debtors in his circle of clients. With the deeds from his archive, the notary Courbois could estimate the financial reliability of his clients. He should not need newspapers

¹⁵⁴ Jong, *Tussen ambt en vrij beroep*, p. 1.

¹⁵⁵ Raaij, 'De notaris en asymmetrische informatie', pp. 22-23.

¹⁵⁶ *Ibidem*, pp. 65-66.

as it would attract strangers who are not in his notarial archive. It weakens the purpose of an intermediary as he cannot provide the creditor with additional financial information. The newspaper advertisements are more in line with behaviour shown by business representatives, who act on behalf of their boss. Certain notaries were also business representatives, because it was a way to earn more money. Therefore, the notary was not an intermediary according to *De Notaris en Asymmetrische Informatie*.

While this could be a correct interpretation of events, it is also possible to interpret the same events in a way that notaries are intermediaries. In theory, notaries should only search for creditors and debtors in their own client circle, but, in practice, notaries were occasionally forced to search outside of their client circle. For instance, while French notaries were clearly intermediaries, they occasionally turned to their colleagues for assistance as their personal client circles did not always have the right kind of creditor or debtor.¹⁵⁷ In France, the large-scale cooperation between notaries came to an end after the introduction of the cadastre, which made cooperation less vital as certain information became publicly available.¹⁵⁸ In the Netherlands, notaries maybe turned to advertisements instead of their colleagues as the Dutch cadastre would have obstructed cooperation between Dutch notaries. It was probably difficult for the notary Courbois to find debtors in his client circle for the advertised mortgages ranging from f10.000 to f40.000, because they are relatively large mortgages in the grander scheme of the mortgage market. If these mortgages were arranged, they belonged to the largest 8% of mortgages in the dataset.¹⁵⁹ Besides the relatively large size of the mortgages, it should be noted that most of the advertisements are in the Protestant *Provinciale Geldersche en Nijmeegsche Courant* (Provincial Gelders and Nijmegen Newspaper, PGNC).¹⁶⁰ *De Notaris en Asymmetrische Informatie* argues that the notary Courbois preferred this local Protestant newspaper over the local Catholic newspaper, because Protestants were wealthier than Catholics. As the notary Courbois needed to find debtors for relatively large mortgages, this could explain the choice for the PGNC. However, as a Catholic notary with mostly Catholic clients, similar behaviour could be expected from a Catholic intermediary.¹⁶¹ The Catholic notary Courbois knew enough wealthy Catholics but very few Protestants. Therefore, if he wanted to tap into a new pool of potential debtors, the Protestant PGNC was his best choice.

The last three arguments are derived from *Public Functions, Private Markets* written by Oscar Gelderblom, Mark Hup and Joost Jonker. While the article focusses on the position of aldermen and

¹⁵⁷ Hoffman, Postel-Vinay, and Rosenthal. *Priceless markets*, pp. 134-135.

¹⁵⁸ Ibidem, p. 254.

¹⁵⁹ Dataset; See chapter "Data".

¹⁶⁰ Raaij, 'De notaris en asymmetrische informatie', pp. 22-23.

¹⁶¹ Jong, *Tussen ambt en vrij beroep*, pp. 66-67 and Dataset; See chapter "Data".

notaries in the Dutch financial market between 1600 and 1800, it makes several direct and indirect claims about their position in the mortgage market in the 19th century. For instance, the article argues that notaries were not intermediaries, because they operated an open shop “until well into the nineteenth century.”¹⁶² The open shop resulted in heavy competition between notaries, which made it almost impossible to acquire enough clients. Notaries needed a large clientele, because, without a large pool of potential creditors and debtors, they could not be of constant service. Creditors and debtors would not have endlessly waited to lend or borrow money. According to *Public Functions, Private Markets*, the competition could have been easily limited if the number of licenses were restricted, but the authorities rarely imposed restrictions. This license was granted to everyone who passed the central exam, which was fairly easy as it had an 80% passing rate before 1878.¹⁶³

Public Functions, Private Markets, however, simplifies the process of becoming a notary. Before the exam, for instance, a potential notary had to learn the craft.¹⁶⁴ Notarial schools were still rare in the Netherlands. Therefore, most potential notaries had to work as a clerk for a notary, because it was the only way to learn the craft. Of course, notaries could choose who would work for them as clerks. So, notaries could indirectly choose who would pass the exam. When someone eventually passed the exam, he was not immediately a notary as he had to be appointed to a jurisdiction. Depending on the time and region in the Netherlands, this power was controlled by various political or judicial bodies. In 1878, the average candidate notary had to wait for twelve years before he was appointed. In the meantime, candidates continued with their clerical work or found employment outside of the notary profession. Some candidates, however, had an average waiting time of five years. What was the difference between these candidates and the others? These candidates had a family member who was already a notary. While notaries did not directly appoint new notaries, they were often asked for their professional opinion on the matter. Was the candidate, for instance, capable enough to run a notary office? However, as the difference in waiting period illustrate, they could use this informal position to favour their own candidates. Therefore, the notary profession should not be called an open shop as notaries could influence policy at every stage of the appointing process. While there was competition, the following part of this chapter will show that they had enough clients to intermediate in the 19th century.

The second argument put forth by *Public Functions, Private Markets* builds on their first argument. Even when notaries had enough clients, notaries were not intermediaries as they did not play a

¹⁶² Gelderblom, Hup and Jonker ‘Public Functions, Private Markets’, p. 182.

¹⁶³ Jong, *Tussen ambt en vrij beroep*, p. 19.

¹⁶⁴ Ibidem, pp. 26-50.

pivotal role in the financial system.¹⁶⁵ While *Public Functions, Private Markets* does not comment on the role of notaries in the financial system after 1800, related literature has a debate about the role of notaries after the Napoleonic era. One side of the debate argues that the French period did not drastically change the nature of the notary profession and mostly codified, nationalized and specified existing rules.¹⁶⁶ For instance, the oaths taken by notaries in Holland in 1654 and 1803 contained the same requirements. Therefore, if the notary profession did not change in the 19th century, their role in the financial system should not change. Consequently, the conclusion from *Public Functions, Private Markets* can be extended to the 19th century. Notaries were not intermediaries on the mortgage market, because they did not play a pivotal role in the financial system.

However, there is also another side in the debate. It argues that the notary profession changed after the Napoleonic era. In this specific case about the role of the notary in the mortgage market, this thesis favours this side of the debate, because three specific changes in Dutch law improved the position of notaries on the mortgage market.¹⁶⁷ Firstly, notaries were granted monopolies on drafting prenuptial agreements, wills and more importantly mortgage contracts during the French period. Secondly, the right to publicly sell real estate was granted to court clerks, bailiffs and notaries. While there was competition from other professions, notaries sold real estate throughout the country. Thirdly, the protocol – the part of the notarial archive with the index and all deeds - no longer had to be immediately given to the local government after a notary passed away or was fired.¹⁶⁸ Every contract younger than 30 years could be kept by the successor, which means that notaries no longer started from scratch. In short, Dutch notaries became far more important on the mortgage market in the 19th century as they wrote contracts, sold real estate and had access to more information. Therefore, they could be intermediaries.

Finally, *Public Functions, Private Markets* argues that notaries were not intermediaries, because the cadastre and its predecessors made it impossible to capitalize on their informational advantages.¹⁶⁹ This claim is based on an argument from *Priceless Markets* by Philip Hoffman, Gilles Postel-Vinay and Jean-Laurent Rosenthal.¹⁷⁰ They show that the pivotal role of French notaries on the mortgage market deteriorated in Paris and other large French cities after the introduction of a cadastre during

¹⁶⁵ Gelderblom, Hup and Jonker 'Public Functions, Private Markets', p. 181.

¹⁶⁶ Duinkerken, B. 'Het Nederlandse notariaat vanaf de Bataafse Republiek tot de invoering van de Notarietwet van 1842' *Het Notariaat in De Lage Landen (± 1250-1842): Opstellen over de geschiedenis van het notariaat in de Lage Landen vanaf de oorsprong tot in de negentiende eeuw*, edited by A. Gehlen and P. Nève, Stichting tot bevordering der Notariële Wetenschap, 2005, pp. 231-256.

¹⁶⁷ Jong, *Tussen ambt en vrij beroep*, pp. 4-6.

¹⁶⁸ Ibidem, p. 13.

¹⁶⁹ Gelderblom, Hup and Jonker 'Public Functions, Private Markets', p. 181.

¹⁷⁰ Hoffman, Postel-Vinay, and Rosenthal. *Priceless markets*, pp. 253-256.

the French Revolution. In the countryside, however, their pivotal role persisted as there was no functional cadastre. In pre-revolutionary and rural France, French notaries could control the mortgage market by monopolizing information on ownership of, possession of and claims on real estate.¹⁷¹ Only notaries could definitively prove that someone owned a certain real estate, which is crucial information when real estate serves as collateral for a mortgage. The cadastre, however, made this information publicly available, which shattered their hold on the mortgage market. In the Netherlands, the cadastre or precursors already existed throughout the Netherlands in the 16th century. Therefore, like the French notaries after the introduction of the cadastre, Dutch notaries were not intermediaries.

This comparison, however, overlooks some important details. Even though they were no longer monopolists, French notaries were still intermediaries on the mortgage market in the first half of the 19th century. How French and Dutch notaries could still play an important role, despite the existence of a cadastre, is explained in the following part of this chapter. Regardless of this explanation, a government-backed mortgage bank and a law forbidding notaries from providing banking services were necessary to fully press the French notaries from the mortgage market in the second half of the 19th century.¹⁷² In the Netherlands, however, there was no mortgage bank backed by the government, and a law forbidding notaries from providing banking services only came into effect in 1931.¹⁷³ Therefore, the position of Dutch notaries is comparable to French notaries in the first half of the 19th century in which French notaries still intermediated on the mortgage market.

Three arguments

Besides providing counterarguments, this thesis also adds three additional reasons to the argument that notaries were intermediaries on the Dutch mortgage market in the 19th century. To return to one of the questions raised during the counterarguments: Was the client base of the notaries large enough or was the base too small due to competition? In this specific instance, this thesis is surprisingly supported by *De Notaris en Asymmetrische Informatie*.¹⁷⁴ The notary Courbois had a good variety of different contracts and deeds, but also a large, absolute number. However, due to the structure of *De Notaris en Asymmetrische Informatie*, it was not possible to definitively determine if his notarial archive contained information about specific creditors or debtors before a

¹⁷¹ Hoffman, Postel-Vinay, and Rosenthal. *Priceless markets*, p. 232.

¹⁷² Ibidem, pp. 251-253 and 267-271.

¹⁷³ Jong, *Tussen ambt en vrij beroep*, p. 81. The exact law can be found on 'Wet op het Notarisambt – Artikel 23' *Ministerie van Binnenlandse Zaken en Koninkrijksrelaties*, 24 August 2018, http://wetten.overheid.nl/BWBR0010388/2018-07-01#search_highlight0.

¹⁷⁴ Raaij, 'De notaris en asymmetrische informatie', pp. 69-70.

mortgage contract was arranged. Therefore, it could still be argued that the client base was not suited for intermediation.

TABLE 5: DIGITALLY AVAILABLE AND UNAVAILABLE NOTARIAL ARCHIVES

	Cases	Range	Mode	Median	Average	Total
Original	1.476	f50 - f143.000	f1.000	f1.352	f3.394	f5.002.359
Nijmegen	581	f100 - f143.000	f2.000	f2.000	f4.243	f2.460.678
Digital Notarial Archives	310	f100 - f75.000	f3.000	f2.000	f4.038	f1.247.893
<i>Unavailable Archives</i>	271	<i>f100 - f143.000</i>	<i>f2.000</i>	<i>f2.000</i>	<i>f4.475</i>	<i>f1.212.786</i>

Source: Dataset; See chapter “Data” and Regionaal Archief Nijmegen, archive numbers 442, 445, 446, 450, 456, Notaris Courbois; Notaris Halberstadt; Notaris Hekking; Notaris Klaassen; Notaris Van Voorst tot Voorst.

The structure of this thesis, however, allows a more specific examination of the notarial archives, because the day register provides the names of every creditor and debtor who signed a mortgage contract. The creditors and debtors only have to be traced in the various notarial archives. As mentioned in the “Data” chapter, various notarial archives have been made digitally available by the regional archive in Nijmegen. However, some notarial archives can still only be analysed in their original paper form. As it is too labour intensive to scan the original paper archives for previous contracts or deeds signed by the creditors and debtors in the dataset, this thesis limits itself to the digitally available archives. While this entails some selection, the digital notarial archives still represent half of the city’s notaries.¹⁷⁵ With a p-value of 0.7, a t-test confirms that the average of the selection is not significantly different from the average of Nijmegen. Besides this selection, the linking process should be briefly discussed. In many ways, it works exactly the same as the linking process in the “Data” chapter. However, there are two differences. In this linking process, this thesis presumes that there are no individuals with the same name in the notarial archive. Despite the fact that this is less of a stretch in the smaller notarial archives than the larger population register, this problematic assumption cannot be avoided. It is impossible to differentiate between two unique individuals in the digital notarial archives, because it often only records the type of deed, the individuals involved and the date of when the deed was drafted. Secondly, there are no different categories of links. The link is either made or not made. When a link is made, the notary could have known the creditor or debtor from a previous deed.

¹⁷⁵ See Table 5.

TABLE 6: CREDITORS AND DEBTORS PRESENT IN NOTARIAL ARCHIVES BEFORE MORTGAGE CONTRACT

Notaries	Number of Mortgages	Creditors Present	Debtors Present	Both Present	Possible Intermediation
Halberstadt (1878-1879)	73	63	38	35	48%
Klaassen (1878-1879)	19	12	2	2	11%
Van Voorst (1878-1879)	23	15	17	11	48%
Halberstadt (1888-1889)	3	2	3	2	67%
Klaassen (1888-1889)	50	42	37	32	64%
Courbois (1888-1889)	68	51	35	27	40%
Hekking (1888-1889)	74	61	43	39	53%
Total (Inclusive Institutions)	310	246	174	148	48%
Total (Exclusive Institutions)	310	178	174	105	34%

Source: Dataset; See chapter “Data” and Regionaal Archief Nijmegen, archive numbers 442, 445, 446, 450, 456, Notaris Courbois; Notaris Halberstadt; Notaris Hekking; Notaris Klaassen; Notaris Van Voorst tot Voorst.

After the day register and digital notarial archives are linked, table 6 could be deduced from the data.

It should be reiterated that only notaries could write mortgage contracts under the Dutch law.¹⁷⁶

Consequently, column 2 does not prove that notaries were intermediaries. If notaries were intermediaries, they should have information about the creditor and debtor. Without information, a notary could not have estimated the financial reliability of an individual. Therefore, a notary should have written a deed for the creditor and debtor before the mortgage contract was signed, because it would provide financial information. Column three and four show if the creditor or debtor have arranged a contract prior to the mortgage contract with the notary who wrote the mortgage contract. As intermediation requires information about both parties, column five shows the number of mortgages in which the notary knew the creditor and debtor from a previous contract.

In almost half of the cases, the notaries had already written contracts for the creditor and debtor before the mortgage contract was signed. However, this figure still includes institutions. It could be argued that institutions should not be included in the figure as they could find their own debtors. When the institutions are removed from the equation and treated as if the notaries did not know them, the figure slightly drops, but the notary still knew the creditor and debtor in 34% of cases prior to signing the mortgage contract.

¹⁷⁶ Jong, *Tussen ambt en vrij beroep*, p. 5.

TABLE 7: CREDITORS AND DEBTORS PRESENT IN OTHER NOTARIAL ARCHIVES BEFORE MORTGAGE CONTRACT

Notaries	Number of Mortgages	Creditors Present	Debtors Present	Both Present	Possible Intermediation
Total (Inclusive Institutions)	310	141	99	53	17%
Total (Exclusive Institutions)	310	70	99	24	8%

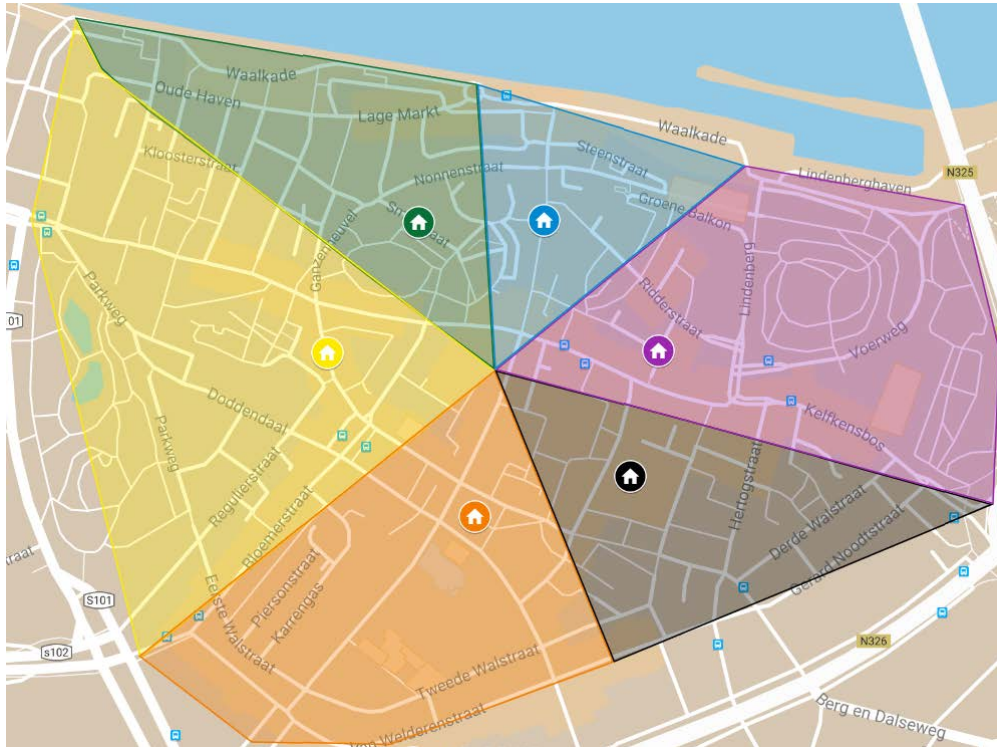
Source: Dataset; See chapter “Data” and Regionaal Archief Nijmegen, archive numbers 442, 445, 446, 450, 456, Notaris Courbois; Notaris Halberstadt; Notaris Hekking; Notaris Klaassen; Notaris Van Voorst tot Voorst.

If creditors and debtors went to the same notaries to obtain better financial information, creditors and debtors should not simply turn to a notary with financial information about them. They should specifically turn to the notary with the most financial information about them as it improves risk assessment. Therefore, the linking process is repeated, but, instead of examining the notarial archive of the notary who wrote the mortgage contract, the other notarial archives are examined. In 17% or 8% of cases, mortgages could have been arranged by another notary as he also had information about the creditor and debtor.¹⁷⁷ However, this percentage drops to 6% or maybe even 3% when the figures are deconstructed. Since individuals should go to the notary with the most information, it should be examined who has written more deeds for a creditor or debtor. In 5 of the 24 cases, the original notary had written more deeds for the creditor and the debtor than any of the other notaries.¹⁷⁸ In 10 of the 24 cases, the original notary had written, for instance, more deeds for the creditor and another notary had written more deeds for the debtor. In only 9 of the 24 cases, the hypothetical notary would have been a better intermediary as he had written more deeds for the creditor and debtor. However, besides some exceptions, creditors and debtors went to the notary with the most information about them. They chose a notary who could intermediate for them.

¹⁷⁷ See Table 7.

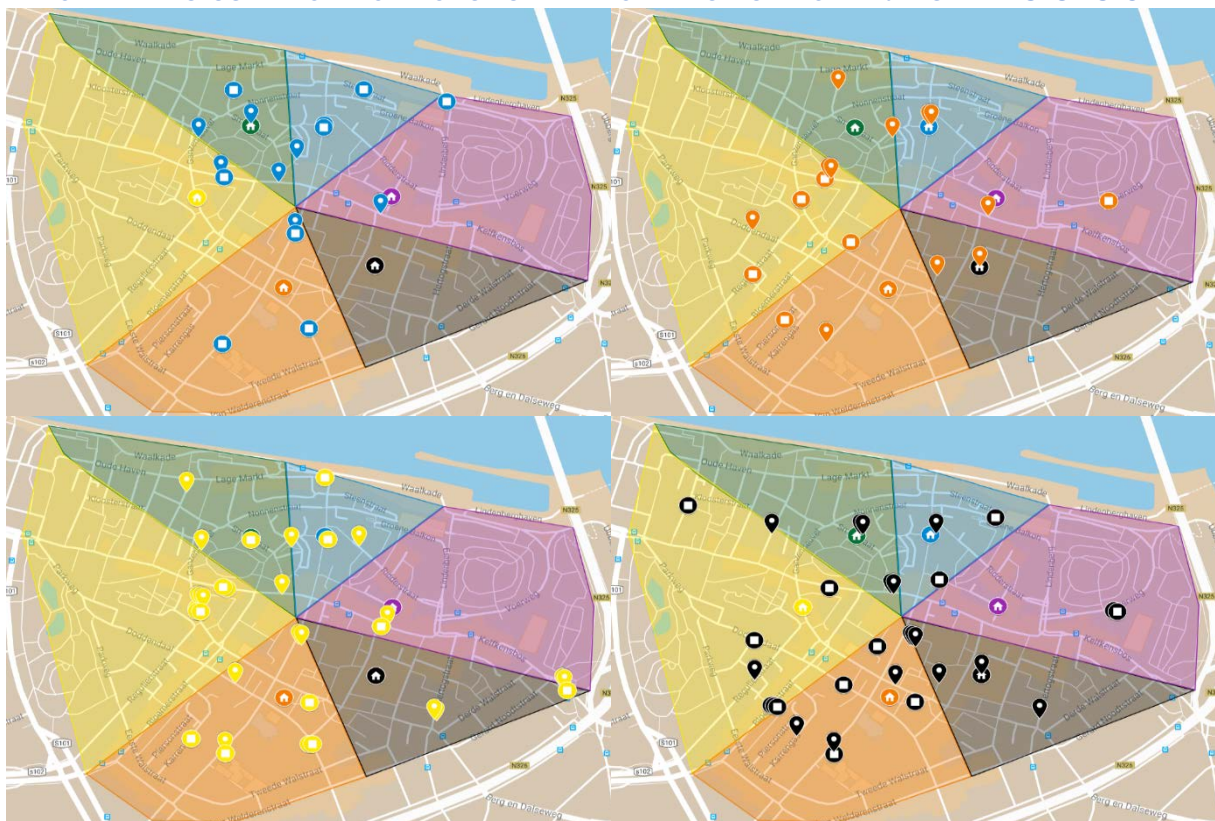
¹⁷⁸ Dataset; See chapter “Data” and Regionaal Archief Nijmegen, archive numbers 442, 445, 446, 450, 456, Notaris Courbois; Notaris Halberstadt; Notaris Hekking; Notaris Klaassen; Notaris Van Voorst tot Voorst.

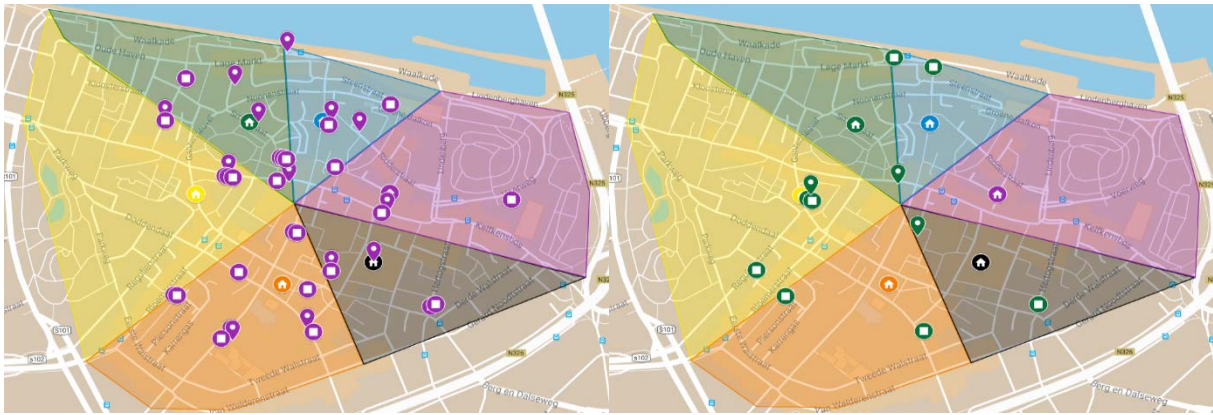
MAP 1: THE LOCATION OF THE NOTARY OFFICES IN NIJMEGEN IN 1878-1879



Source: 'Notaris (Name of the notary)' *Huis van de Nijmeegse Geschiedenis*, 28 July 2018, [https://www.huisvandenijmeegsegeschiedenis.nl/info/\(Name-of-the-notary\)](https://www.huisvandenijmeegsegeschiedenis.nl/info/(Name-of-the-notary)). Blue: Notary Van Voorst tot Voorst; Purple: Notary Halberstadt; Black: Notary Courbois; Orange: Notary Masman; Yellow: Notary Böhtlingk; Green: Notary Klaassen.

MAPS 2-7: THE GEOGRAPHICAL DISTRIBUTION OF LENDERS AND BORROWERS IN NIJMEGEN IN 1878-1879





Source: Dataset; See chapter “Data”. Blue: Notary Van Voorst tot Voorst; Purple: Notary Halberstadt; Black: Notary Courbois; Orange: Notary Masman; Yellow: Notary Böhlingk; Green: Notary Klaassen. A droplet is a creditor and a square is a debtor.

However, this consistent behaviour could have another reason besides intermediation. For instance, maybe creditors and debtors simply chose to employ the notary who lived nearest to them. It would explain the build-up of information in one notarial archive as individuals consistently go to the same notary as long as they or the notary did not move. Using the information from the population register, 142 creditors and debtors are plotted in a map of Nijmegen. These 142 creditors and debtors are all unique individuals who lived in the city centre between 1878 and 1879. Every individual is colour coded to signify which notary they used. Subsequently, they are plotted on street level on maps 2 to 7. They cannot be exactly plotted as house numbers have changed in the past century. Some individuals seem to have been plotted in the middle of housing blocks, because the street plan changed after Nijmegen was bombed in the Second World War. With the use of older maps, however, individuals who lived in streets which no longer existed could be plotted. While this is not a precise method of plotting addresses, it is a workable method. After the creditors and debtors have been plotted, Nijmegen was partitioned into six work fields of the city’s notaries. The borders are drawn in such a way that a person who lived in the orange field was closest to the orange notary office. Therefore, if vicinity determined which notary was employed, everyone who lived in the orange work field should have gone to the orange notary office run by the notary Masman.

However, as maps 2 to 7 already illustrate, creditors and debtors seem to have lived throughout the city. Based on these maps, table 8 calculates the number of creditors and debtors who lived inside and outside of the work fields of their respective notaries. As the plotting method is not exact, some flexibility was allowed in a way that would favour the conclusion that vicinity determined which notary was hired. For instance, if a street goes through the orange and yellow work fields, but an orange pin is placed in the yellow work field due to the fact that everyone is plotted in the middle of a street, the orange pin is still counted as within range. Despite this favourable treatment, only 33% of clients lived in the work field of their respective notary. While this figure shows that vicinity has

some influence on the choice of notary as it is higher than a random distribution over the six work fields, it does not explain the consistent behaviour or the build-up of information. Only the notary van Voorst to Voorst deviates considerably from this average. Maybe notary van Voorst tot Voorst ran his notary office differently. However, as mentioned, the applied method favours counting creditors and debtors within range. This favouritism seems to be even more visible in the case of notary van Voorst tot Voorst, because four major streets intersect in his work field.¹⁷⁹

TABLE 8: THE RESIDENCE OF CREDITORS AND DEBTORS CLOSEST TO THE OFFICE OF THE EMPLOYED NOTARY

Notaries	Number of Addresses	Within Range	Outside Range	Percentage within Range
Böhtlingk	30	10	20	33%
Courbois	30	8	22	28%
Masman	17	5	12	29%
Klaassen	11	3	8	27%
Van Voorst	15	8	7	53%
Halberstadt	39	13	26	33%
Total	142	47	95	33%

Source: Maps 2-7.

Besides the size of the client base, the counterarguments raised another question. How could French and Dutch notaries still play an important role on the mortgage market, despite the existence of a cadastre? This question reasons that the financial information from the notarial archives is actually not necessary as the reliability of a debtor is already confirmed by providing collateral. Unreliability would only result in the debtor losing his or her collateral and the creditor selling the collateral to regain his or her investment. The creditor only needs to confirm that the real estate is owned by the debtor. Therefore, notaries cannot be intermediaries as the cadastre provides the necessary information about the ownership of, possession of and claims on real estate. However, even if this thesis assumes that the collateral is enough to prove reliability, there is still a role left for notaries on the mortgage market. For instance, the creditor and debtor must be brought into contact with each other. The cadastre was only a passive recorder of information, while a notary with his archive could actively contact potential creditors and debtors. The creditor and debtor would also want to have knowledge about the exact value of the real estate, because it determines the amount the debtor could borrow and if the creditor was repaid in case of default. Notaries could provide an exact estimate as they publicly sold real estate in the 19th century. In most cities, this was done in so-called notary houses in which the city's notaries sold real estate. Nijmegen also had a notary house until it

¹⁷⁹ The four streets are the Broerstraat, the Grotestraat, the Burchtstraat and the Grote Markt.

was closed in 1860. It was partially replaced by a “notary house” run by the bailiff Teeuwissen.¹⁸⁰ The other part of the real estate market, however, was still run by notaries through local newspapers. In the 1880s, every newspaper in Nijmegen contained advertisements in which notaries explain that they will sell real estate at a certain place at a certain time. So, besides financial information, notaries could still be intermediaries as they could connect creditor and debtors to each other and provide reliable real estate values.

Finally, a light should be shined on a few contemporary studies which described the state of the Dutch mortgage market in the 19th century. *Hypotheekbanken en woningmarkt in Nederland*, for instance, written by C. Glasz in 1935.¹⁸¹ He states that mortgages arranged with private funding were often arranged with the help of a notary. He describes that, when a debtor wanted a mortgage and he could not find the funding in his own personal circle, he or she turned to the notary for help. Even when the funding eventually came from a mortgage bank, it was often the notary who referred the debtor to the mortgage bank. Glasz does not stand alone. When simply searching with the terms *notaris* (notary) and *hypotheek* (mortgage) in the database of the scientific journal called *De Economist* between 1850 and 1950, various articles describe notaries as intermediaries on the Dutch mortgage market.¹⁸² However, the biggest spotlight must be on *Over eene Nederlandsche hypotheekbank* written in 1855 by Philip Bachiene.¹⁸³ The same person who founded the first mortgage bank in the Netherlands as well as a man who was considered an eminent mortgage expert in his own time.¹⁸⁴ He states unequivocally that creditors had great difficulty with meeting debtors. Therefore, they had to turn to either a business representative or a notary. Even the eminent expert does not doubt that notaries were intermediaries on the mortgage market.

Conclusion

Recent literature argued that notaries were not intermediaries. The inadequate alphabetical ledgers, the advertisements for mortgages in the newspapers, the plentiful supply of licensed notaries, the unimportant position of notaries in the financial system and the presence of a cadastre suggested that it was impossible. This thesis, however, has clearly made the opposite argument. The alphabetical ledgers were not inadequate, because they were imperfect. Instead, they were imperfect, but adequate as they were clearly designed to trace specific creditors and debtors in the

¹⁸⁰ Jong, *Tussen ambt en vrij beroep*, p. 6.

¹⁸¹ Glasz. *Hypotheekbanken*, pp. 36 and 40.

¹⁸² F. N. S. ‘Losse Indrukken; bij een uitstap in de provincie Noordbrabant.’ *De Economist*, 1864, pp. 433-445, 443; A. Sassen. ‘Spaarbankzaken; Mededelingen uit het binnen- en buitenland.’ *De Economist*, 1884, pp. 461-472, 465 and H. Janzen. ‘Het cooperatief landbouwcrediet in Nederland in de laatste tien jaren.’ *De Economist*, 1934, pp. 497-535, 500.

¹⁸³ Bachiene. *Over eene Nederlandsche hypotheekbank*, pp. 25 and

¹⁸⁴ Jonker, *Merchants, bankers, middlemen*, p. 85.

notarial archives. The advertisements for mortgages did not show that notaries did not intermediate in any mortgages. They showed that it was difficult for notaries to find debtors in their client circle for relatively large mortgages. While there were plenty of licensed notaries, it did not result in an overcompetitive market as only a few of them were actually appointed as notaries in jurisdictions by authorities. Dutch notaries had never been as important as French notaries in the financial system. However, Dutch notaries improved their position in the financial system markedly after the Napoleonic era due to several legislative changes. Only notaries could write mortgage contracts and, besides bailiffs and court clerks, they could publicly sell real estate. The cadastre obstructed the monopolization of information about the ownership of real estate, but, due the previously mentioned legislative changes, notaries could provide creditors and debtor with other important information like the real estate value. Lastly, contemporary sources reaffirm that notaries were intermediaries.

TABLE 9: MORTGAGE MARKET SHARE OF NOTARIES

	Cases	Range	Mode	Median	Average	Total
Original	1.476	f50 - f143.000	f1.000	f1.352	f3.394	f5.002.359
Nijmegen	581	f100 - f143.000	f2.000	f2.000	f4.243	f2.460.678
Digital Notarial Archives	310	f100 - f75.000	f3.000	f2.000	f4.038	f1.247.893
Notaries (Inclusive Institutions)	148	f100 - f25.000	f3.000	f3.000	f3.919	f576.068
Notaries (Exclusive Institutions)	105	f100 - f15.000	f3.000	f2.300	f3.148	f330.568

Source: Dataset; See chapter “Data” and Regionaal Archief Nijmegen, archive numbers 442, 445, 446, 450, 456, Notaris Courbois; Notaris Halberstadt; Notaris Hekking; Notaris Klaassen; Notaris Van Voorst tot Voorst.

While notaries were intermediaries, their exact market share is more difficult to determine. When excluding institutions and requiring notaries to have financial information about the creditor and debtor, 34% of all mortgages were arranged by notaries.¹⁸⁵ Due to the relatively small size of these mortgages, they only represent 26% of the total value of the mortgage market.¹⁸⁶ However, the estimate could be higher and lower. For instance, should institutions be included in the estimate as Glasz mentions that even mortgage banks used them as intermediaries? Is it necessary to have financial information about the creditor and debtor as the collateral already shows that someone is reliable? The 34% and 26% figures also assume that the creditor and debtor did not know each other before arranging the mortgage. It ignores, for example, the possibility that creditor and debtor were

¹⁸⁵ See Table 6.

¹⁸⁶ See Table 9.

family members. It would also explain their presence in the notarial archive as certain families might consistently use one notary. Notaries did not need to intermediate in these situations. Instead, the personal relation provided the basis for arranging a mortgage contract. The next chapter explores this possibility.

Individuals

While the previous chapters have clearly shown that many creditors and debtors turned to institutions and intermediaries for mortgages, a substantial part of the mortgage market seem to have been arranged without the interference of institutions and intermediaries. Instead of a formal structure consisting of institutions and intermediaries, creditor and debtor could have turned to informal social networks. While the literature affirms the existence of these networks, it does not discuss anything beyond their existence as the diaries and letters, which could prove that creditor and debtor arranged a mortgage directly with each other, are not suitable for large scale research. To resolve this issue with scale, this thesis uses the day register and population register. However, in turn for a larger scale, these sources can only show that a creditor and a debtor walked in similar social circles like family, work, religion and neighbourhood. While the analysis of these social networks cannot offer definitive answers, the analysis eventually shows that these networks were either at most responsible for 1 in 4 mortgages, or that these networks are far more complex than this thesis could explore.

Network

In Dutch mortgage historiography, it is often mentioned that individuals arranged mortgages through social networks without the interference of institutions and intermediaries. Besides the occasional historical example, the literature does not build on this statement of fact.¹⁸⁷ Consequently, the impact of these networks on the mortgage market is poorly understood. For instance, while *Public Functions, Private Markets* argues that creditors and debtors agreed on the conditions of the mortgage contract before formalizing them at the notary office, Glasz argues that the notary was crucial for bringing creditor and debtor together.¹⁸⁸ Of course, the source material makes it difficult to go beyond this statement. As mentioned in the “Data” chapter, diaries and letters would be perfect sources to explore these networks of creditors and debtors, but this method cannot be scaled up. Therefore, this thesis turns to the day register and population register. With the information from the population register linked to the day register, it is possible to examine several potential networks on a larger scale: family, work, religion and neighbourhood. In exchange for the larger scale, however, the population register is less definitive than the letters and diaries. The population register can only confirm if the creditor and debtor could have belonged to a similar social

¹⁸⁷ Glasz. *Hypotheekbanken*, pp. 36-37 and Klein and Vleesenbeek, ‘De geschiedenis van het hypotheekbankwezen’, p. 136.

¹⁸⁸ Glasz. *Hypotheekbanken*, pp. 36-37 and Gelderblom, Hup and Jonker ‘Public Functions, Private Markets’, p. 186.

circle. Despite this limitation, it provides some insight into the scope of the networks and their importance for the mortgage market.

The organisational structure of the various networks is based on three general assumptions. Firstly, the intensity of the relationship between individual members of the network is related to the total number of members in the network. When members have close relationships, then the network will be relatively small. A closer relationship results in more and better information about a creditor or a debtor, but it requires more time to find a creditor who is able to lend money or a debtor who wants a mortgage. When the relationships between members are distant, then the network will be relatively large. Consequently, it will require less time to find a creditor or debtor in the network, but they will have less information about each other. Secondly, while members within networks exchange more information than the bare necessity for arranging a mortgage, the networks provide members with the option to threaten with social repercussions besides the normal economic consequences when the creditor or debtor breaks the agreement. Therefore, while more information results in better risk assessment, a creditor and debtor risk more when arranging a mortgage with a fellow member of the network. Thirdly, due to the direct interaction between creditor and debtor, the access to more information about each other and the social punishment when either defaults, networks could charge lower interest rates. This last assumption is supported by Glasz's observation that the interest rates on mortgages arranged between private individuals are often lower than the interest rate on government bonds.¹⁸⁹

TABLE 10: THE NUMBER OF MORTGAGES ARRANGED BETWEEN INDIVIDUALS IN THE DATA SERIES

	Cases	Range	Mode	Median	Average
Original	1.476	f50 - f143.000	f1.000	f1.352	f3.394
<i>Original (Individuals)</i>	1.165	f50 - f70.000	f1.000	f1.200	f2.494
Nijmegen	581	f100 - f143.000	f2.000	f2.000	f4.243
<i>Nijmegen (Individuals)</i>	431	f100 - f70.000	f2.000	f1.700	f3.128
Dataset	419	f100 - f143.000	f2.000	f2.000	f4.538
<i>Dataset (Individuals)</i>	297	f100 - f24.000	f2.000	f2.000	f3.099

Source: Original; See chapter "Data".

Before analysing the individual networks, it should be noted that institutions are removed from the various data series. While certain formal institutions might have been imbedded in informal networks, the dataset does not contain any information with which individuals could be linked to institutions. As with the "Intermediaries" chapter, it could be presumed that most institutions

¹⁸⁹ Glasz. *Hypotheekbanken*, p. 36.

arrange mortgages themselves. When the institutions are removed from the dataset, the averages decline sharply and the ranges become narrower. These consequences are consistent with the chapter “Institutions”, which showed that institutions arranged relatively large mortgages. Despite the removal of institutions, the average of the “Dataset (Individuals)” is still not significantly different from the average of the “Nijmegen (Individuals)”.¹⁹⁰ However, with a p-value of 0.02, the t-test proves that the original is still significantly different from the dataset.

Family

To establish a family relation, this thesis compares the last names of the creditors, debtors and their spouses. If only first-degree relatives arranged mortgages with each other, then this comparison should identify every mortgage arranged with a family member except for mortgages arranged between a mother and her children. Due the practice of giving children only the last name of the father, a mother and her children had a different last name. However, if mortgages were arranged between second- or third-degree relatives, this practice results in even more issues for the comparison as there would be more variation in last names. Even if second- and third-degree relatives had the same last name, a similar last name does not always entail that individuals were closely related to each other. A creditor and debtor, for instance, could have the same last name due to a common ancestor. If the family has branched out between their birth and the birth of their common ancestor, a creditor and debtor could share a last name, but they might not know each other. Therefore, this comparison will not produce a definitive answer, but it will provide some insight into the scope of family networks. If this comparison finds very few mortgages arranged between family members, then mortgages were either rarely arranged between family members or second- and third-degree relatives were arranging mortgages with each other.

TABLE 12: THE NUMBER OF CASES IN WHICH THE LAST NAMES OF THE SPOUSES ARE AVAILABLE

	Cases	Range	Mode	Median	Average
Nijmegen (Individuals)	431	f100 - f70.000	f2.000	f1.700	f3.128
Dataset (Individuals)	297	f100 - f24.000	f2.000	f2.000	f3.099
Dataset (Family)	113	f100 - f20.000	f1.000	f2.000	f3.423

Source: Dataset; See chapter “Data”.

While there were 297 mortgages arranged between individuals in the dataset, the last name of the spouse was not always available in the dataset. In certain cases, the individuals were simply not married, but, in other cases, the spouse was already deceased. If it happened recently and the

¹⁹⁰ The t-test gave a p-value of 0.93 for the comparison of the averages of the “Nijmegen (Individuals)” with the “Dataset (Individuals)”.

individual had not moved, the spouse would be present in the population register, but a thin line would be drawn through his or her information and the date of his or her death would be recorded. However, if the individual had moved or a new series of population register was started, the deceased spouse would not be recorded in the population register. Due to these missing spouses, the comparison cannot identify in-laws as family. Therefore, this thesis separates the mortgages in which both spouses are known from the mortgages in which no or one spouse is known. They are not removed from the analysis, but it should be taken into account that in-laws are not identified or less reliably identified as family. While there are only 113 cases in which both spouses are known, this selection is not significantly different from the “Nijmegen (Individuals)” or the “Dataset (Individuals)”.¹⁹¹

TABLE 13: THE NUMBER OF MORTGAGES IN WHICH TWO INDIVIDUALS HAD THE SAME LAST NAME

Last name available for:	Cases	Matches
Creditor and Debtor	125	9
Creditor, Debtor and one of the Spouses	193	8
Creditor, Debtor and both Spouses*	113	7
Total	431	24

Source: Dataset; See chapter “Data”. * = Dataset (Family).

In table 13, the results of the comparison are shown. When it is presumed that two individuals with the same last name are related to each other, then there are 24 mortgages in which a family relation could have brought the creditor and debtor together. In 17 of these cases, the creditor and debtor were directly related to one another. In 3 cases, the debtor’s spouse was related to the creditor, but the creditor’s spouse was only related to the debtor in 1 case. In the remaining 3 mortgages, the spouses were related to one another. These results seem to suggest that, in most cases, creditors and debtors were directly related to each other. If the in-laws played an important role in family networks, the number of matches should have decreased with the unavailability of the last name of the spouse, but the opposite happens. If the issues with this comparison are temporarily ignored, 4% of creditors and debtors turned to relatives for a mortgage. As these mortgages were also relatively small, they only represented 3% of the total value of the Nijmegen mortgage market. However, when the issues are incorporated into the conclusion, family networks were either relatively small or creditors and debtors regularly turned to second- or third-degree relatives with a different last name for a mortgage. Family might not be the ideal network for arranging mortgages as close relatives

¹⁹¹ See Table 12. The t-test gave a p-value of 0.46 for the comparison of the averages of the selection with the “Dataset (Individuals)” and p-value 0.50 for the comparison of the averages of the selection with the “Nijmegen (Individuals)”.

often belonged to a similar economic class. Consequently, credit and debt are not evenly distributed over all families, which would result in very few mortgages between family members. On the other hand, second- and third-degree relatives who are not consistently identified as family members in this comparison could resolve this issue as they might be in a different economic class.

TABLE 14: THE MORTGAGE MARKET SHARE OF FAMILY NETWORKS

	Cases	Range	Mode	Median	Average	Total
Nijmegen	581	f100 - f143.000	f2.000	f2.000	f4.243	f2.460.678
Nijmegen (Individuals)	431	f100 - f70.000	f2.000	f1.700	f3.128	f1.348.228
Matches (Nijmegen)	24	f100 - f13.000	f1.000	f1.764	f2.967	f71.204
Dataset (Family)	113	f100 - f20.000	f1.000	f2.000	f3.423	f386.815
Matches (Dataset)	7	f300 - f13.000	f1.000	f800	f2.443	f17.100

Source: Dataset; See chapter "Data".

Work

To establish a work relation, this thesis compares work titles of the creditor and debtor. When they had similar work, it is presumed that the creditor and debtor could have known each other from work. This is a slightly problematic assumption as it, for stance, assumes that all bakers in Nijmegen knew each other. It also ignores interactions between different occupations in a supply chain. For example, a grain farmer and a grain trader will be considered unconnected, because trader and farmer are different occupations. In reality, grain farmers would have known grain traders as they needed to sell their grain. Therefore, this comparison will not produce a definitive answer, but it will provide some insight into the scope of work networks. If individuals only arranged mortgages with individuals at the same level of the production chain as themselves, then this comparison will find that most mortgages had been arranged through work relations. However, if individuals arranged mortgages with individuals at other levels in the supply chain, then this comparison will not identify them.

TABLE 15: THE NUMBER OF CASES IN WHICH THE OCCUPATION OF THE CREDITOR AND DEBTOR IS KNOWN.

	Cases	Range	Mode	Median	Average
Nijmegen (Individuals)	431	f100 - f70.000	f2.000	f1.700	f3.128
Dataset (Individuals)	297	f100 - f24.000	f2.000	f2.000	f3.099
Dataset (Work)	138	f100 - f22.000	f500	f2.000	f3.254

Source: Dataset; See chapter "Data".

It is not possible to simply compare work titles as there are variations in work titles for essentially the same professions. Therefore, to make comparison possible, the HISCO classifying system is used to

standardize the varying job titles.¹⁹² Once more, the number of cases decreases from the original 297 to 138 cases. While the “Dataset (Work)” is not significantly different, the decline requires an explanation.¹⁹³ In certain cases, the population or civil registry might have forgotten to record an occupation. In most cases, however, the individuals are probably unemployed or retired. Especially creditors are often recorded without occupation. When only examining the perfect links, 9% of debtors did not have a job title, but 28% of creditors did not have job title.¹⁹⁴ While it is theoretically possible that these individuals were unemployed, it is unlikely. An unemployed creditor is not financially secure enough to lend money to a debtor and an unemployed debtor has a high chance of being incapable of repaying the creditor. Regardless of the exact reason, as there are no work titles to compare and the registers might simply have forgotten to record the profession, they are removed from the dataset.

TABLE 16: THE MORTGAGE MARKET SHARE OF WORK NETWORKS

	Cases	Range	Mode	Median	Average	Total
Dataset (Work)	138	f100 - f22.000	f500	f2.000	f3.254	f449.015
Matches (Major group)	21	f150 - f16.000	f2.000	f2.000	f2.979	f62.550
Matches (Occupation)	9	f600 - f3.500	f2.000	f2.000	f2.200	f18.200

Source: Dataset; See chapter “Data”.

When taking this into account, there are 21 mortgages in which the creditor and debtor had a work title belonging to the same major HISCO group. However, as there are only 9 major groups, the application of only the major groups results in questionable work relations, such as between a retired lieutenant colonel and a pharmacist servant.¹⁹⁵ It seems unlikely that they interacted with each other during work. When requiring that the creditor and debtor should be in the same occupational category like types of cooks or types of farmers, the number of mortgages who might have been arranged with a fellow worker drops to 9. If the issues with this comparison are temporarily ignored, 7% of creditors and debtors turned to a colleague for a mortgage. As these mortgages were also relatively small, they only represented 4% of the total value of the “Dataset (Work)”. These percentages cannot be extrapolated to the Nijmegen mortgage market, because it would treat the large number of retired or unemployed individuals as if their employment was simply not recorded.

¹⁹² M. Van Leeuwen, I. Maas, and A. Miles. ‘Creating a historical international standard classification of occupations an exercise in multinational interdisciplinary cooperation.’ *Historical Methods*, vol. 37, no. 4, 2004, pp. 186-197.

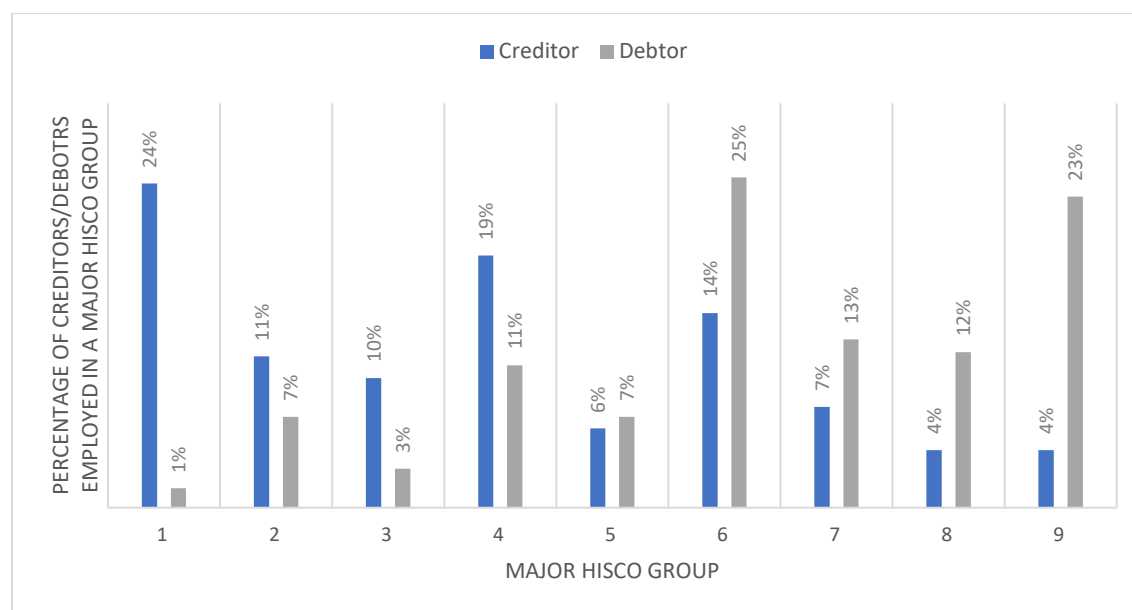
¹⁹³ See Table 15. The t-test gave a p-value of 0.70 for the comparison of averages of the selection with the “Dataset (Individual)” and p-value 0.76 for the comparison of averages of the selection with the “Nijmegen (Individuals)”.

¹⁹⁴ Dataset; See chapter “Data”. Of the 246 perfectly linked creditors, 70 had no job title recorded. Of the 242 perfectly linked debtors, 21 had no job title recorded.

¹⁹⁵ Dataset; See chapter “Data”, ID 576.

Consequently, while the number and value of the mortgages were higher than family networks, these percentages could represent overestimates. However, as this comparison also discards interactions between different occupations in a supply chain, the percentages could also underestimate the scope of work networks. This thesis cannot measure if the retired and unemployed or if the interactions with other occupations has a stronger effect on the percentages. So, the percentages could be under- and overestimates. Despite these issues, this comparison shows that creditors and debtors did not often belong to the same profession. Figure 12 reaffirms that creditors and debtors were not evenly distributed over the 9 major HISCO groups. Colleagues might not have been the ideal creditors or debtors as they were hit by the same general economic up- and downturns. Consequently, the amount of available credit and debt in a work network would have fluctuated with the economy. In 1880, for example, an agricultural crisis caused a severe economic downturn for farmers, which resulted in a credit crunch. This credit crunch was only solved by the introduction of cooperative banks.¹⁹⁶ Therefore, individuals either did not arrange many mortgages with colleagues or, if mortgages were regularly arranged with colleagues, then the creditor and debtor should have worked in other stages of the supply chain.

FIGURE 12: THE DISTRIBUTION OF CREDITORS AND DEBTORS OVER THE 9 MAJOR HISCO GROUPS.



Source: Dataset; See chapter "Data".

Religion

To establish a religious relation between creditor and debtor, this thesis makes three assumptions. Besides having the same religion, the creditor and debtor should also have gone to the same church. It is presumed that individuals visited the church nearest to their homes. This secondary assumption

¹⁹⁶ Jonker. 'The alternative road to modernity: banking and currency', pp. 120-121 and Klein and Vleesenbeek, 'De geschiedenis van het hypotheekbankwezen', pp. 10-11.

is necessary as most individuals in Nijmegen were members of the Roman Catholic or Dutch Reformed Church (Protestant denomination) in the 19th century. Consequently, a comparison solely based on religion would produce results by simple chance. Besides chance, creditors and debtors preferred notaries with the same religion as themselves. The Catholic notaries Courbois, for instance, had 6 Dutch Reformed creditors, but 41 Roman Catholic creditors in the dataset. So, if notaries intermediated between a creditor and debtor, the statistics would also show a religious preference for creditors and debtors with the same religion, because the client circles of notaries would be skewed towards one religion. In the cases of Dutch Reformed creditors and debtors, the church assumption does not help as there was only one Dutch Reformed Church in Nijmegen. Only Roman Catholics could be analysed with the church assumption as they had four churches in Nijmegen. The conclusion based on Roman Catholic creditors and debtors will be extrapolated to the other religions in Nijmegen. This third assumption presumes that all believers are similar with regards to the mortgage market, but it should be noted that the Dutch Reformed citizens were wealthier than the Roman Catholics citizens in Nijmegen. Consequently, they might have acted differently on the mortgage market. With these three assumptions, it is possible to explore the existence of a religious component in the mortgage market and distinguish a real connection from random chance.

TABLE 17: THE NUMBER OF CASES IN WHICH THE RELIGION OF THE CREDITOR AND DEBTOR IS KNOWN.

	Cases	Range	Mode	Median	Average
Nijmegen (Individuals)	431	f100 - f70.000	f2.000	f1.700	f3.128
Dataset (Individuals)	297	f100 - f24.000	f2.000	f2.000	f3.099
Dataset (Religion)	131	f100 - f20.000	f2.000	f2.000	f3.311
Dataset (Roman Catholics)	38	f100 - f10.000	f1.000	f2.000	f2.706

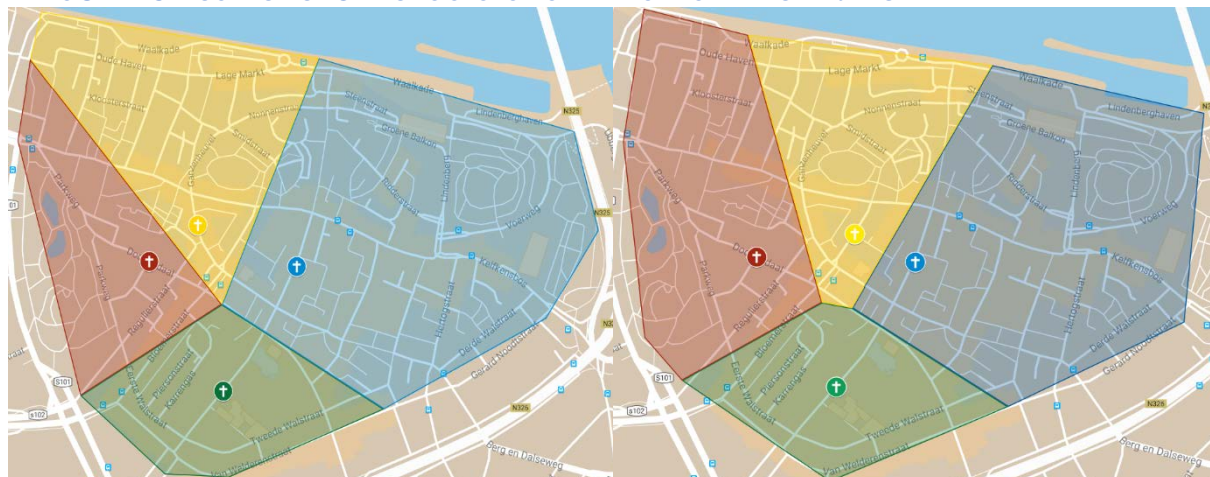
Source: Dataset; See chapter “Data”.

Again, the number of mortgages decreases from the original 297 to 131. This is mostly due to the fact that the civil registry did not record the religion of individuals. A relatively minor factor is the removal of the 14 mortgages that involved an individual that was not Roman Catholic or Dutch Reformed. In only one of these cases, the creditor and debtor shared the same religion.¹⁹⁷ So, there is already one mortgage that has possibly been arranged with a fellow believer. As the analysis of religious networks eventually focusses on mortgages arranged between Roman Catholics, the number drops to 38. While there are 70 mortgages arranged between Roman Catholics in the dataset, the creditor or debtor did not live in the city centre of Nijmegen in 32 cases. Consequently, they could not be connected to one of the four churches in the city centre. The t-test affirms that, despite selection,

¹⁹⁷ Dataset; See chapter “Data”, ID 285.

the average of the “Dataset (Roman Catholic)” is not significantly different from the average of the “Nijmegen (Individuals)”.¹⁹⁸ While the t-test signals no significant difference, the selection procedure is problematic, because it is designed to focus on Roman Catholics. More importantly, the 91% reduction in the number of cases cannot be explained and mended as with the family and work networks.

MAPS 8 AND 9: LOCATION OF CATHOLIC CHURCHES IN THE CITY CENTRE OF NIJMEGEN



Source: ‘(Church or parish name)’ *Huis van de Nijmeegse Geschiedenis*, 28 July 2018, [https://www.huisvandenijmeegsegeschiedenis.nl/info/\(Church-or-parish-pame\)](https://www.huisvandenijmeegsegeschiedenis.nl/info/(Church-or-parish-pame)). The four churches, their colour and their location: Augustijnenkerk, Yellow, Houtstraat in 1878-1879 and Augustijnenstraat in 1888-1889; Regulierenkerk, Green, Molenstraat; Broederenkerk, Blue, Broerstraat; Parochie St.-Franciscus van Assisi in Nijmegen, Red, Doddendaal.

To start with a simple comparison, table 18 shows that 93 of the 131 mortgages have a creditor and debtor with the same religion, while a random distribution should have only resulted in 71 mortgages between creditors and debtors of the same faith. When the effect of the skewed client circles of notaries are taken into account, the difference decreases to only 10 mortgages. If 20 creditors and debtors had been brought together by their faith, then 8% of creditors and debtors turned to a fellow believer for a mortgage in the “Dataset (Religion)”. However, this conclusion presumes that everyone with the same faith knew each other in Nijmegen. The church assumption is added to the analysis to ensure that these individuals could have theoretically met each other. Maps 8 and 9 show the location of the four Roman Catholic churches and the areas closest to them. As individuals could only be plotted on a street level due to changes in house numbers in the past century, it is important to note that certain streets ran through multiple church areas. These individuals are treated as if they went to multiple churches, because it cannot be stated with certainty which church they visited without an exact location. When these problematic streets are

¹⁹⁸ See Table 17. The t-test gave a p-value of 0.40 for the comparison of averages of the selection with the “Nijmegen (Individuals)”.

included, Roman Catholic creditors and debtors were going to the same church in 17 out of the 38 cases. As Nijmegen is divided into four areas, this is 7.5 more cases than the 9.5 cases predicted by random chance. When the most problematic cases are excluded, the total number of cases decreases to 30 and only 9 of them were going to the same church. 1.5 cases more than random chance, but there are still a few cases in which either the creditor or debtor lived in a street that ran through multiple church areas. Therefore, while no definitive conclusion should be based on 38 selective cases, table 19 either overestimates the scope of religious networks or the church assumption is incorrect and individuals met somewhere else. Regardless of the answer, religion might not have been the ideal network for finding a creditor or debtor, because almost everyone was affiliated with a religious community. So, religion might not have been selective enough. This issue could be resolved by congregating at another religious meeting place with stricter membership rules than the church.

TABLE 18: THE ACTUAL NUMBER OF MORTGAGES ARRANGED BETWEEN INDIVIDUALS OF THE SAME OR DIFFERENT FAITH AND A STATISTICAL DISTRIBUTION.

	Roman Catholic Debtors	Dutch Reformed Debtors	Total Debtors
Roman Catholic Creditors	70 (59)	3 (14)	73
Dutch Reformed Creditors	35 (46)	23 (12)	58
Total Creditors	105	26	131

Source: Dataset; See chapter "Data". The numbers between the brackets are the statistical number of mortgages which should have been arranged between the creditors and debtors of similar and different faiths.

TABLE 19: THE ACTUAL NUMBER OF MORTGAGES ARRANGED INDIVIDUALS OF THE SAME AND DIFFERENT FAITH AND A STATISTICAL DISTRIBUTION COMPENSATED FOR THE SKEWED CLIENT CIRCLES OF NOTARIES.

	Roman Catholic Debtors	Dutch Reformed Debtors	Total Debtors
Roman Catholic Creditors	70 (65)	3 (8)	73
Dutch Reformed Creditors	35 (40)	23 (18)	58
Total Creditors	105	26	131

Source: Dataset; See chapter "Data". The numbers between the brackets are the statistical number of mortgages which should have been arranged between the creditors and debtors of similar and different faiths, when the effect of skewed client circles of notaries have been taken into account.

Neighbourhood

To establish a neighbourhood relation, this thesis measures the distance between the address of the creditor and the debtor. In contrast with the other networks, there is no comparison that provides a yes or no answer on the question if the creditor and debtor knew each other from the neighbourhood. Instead of the yes or no question, this thesis looks for a pattern in total number of

mortgages. If individuals arranged mortgages with individuals from the neighbourhood, the number of mortgages should decrease with an increase in distance between creditor and debtor. This pattern is based on the assumption that individuals would have known their neighbour before the person who lived ten streets away from them. Therefore, when the distance between individuals increases, it should be less likely that they knew each other. Consequently, it should be less likely that they arranged a mortgage with each other. However, if individuals did not arrange mortgages with neighbours or individuals who lived close to them, then this pattern should not emerge.

TABLE 20: THE NUMBER OF CASES IN WHICH THE ADDRESS OF THE CREDITOR AND DEBTOR IS KNOWN.

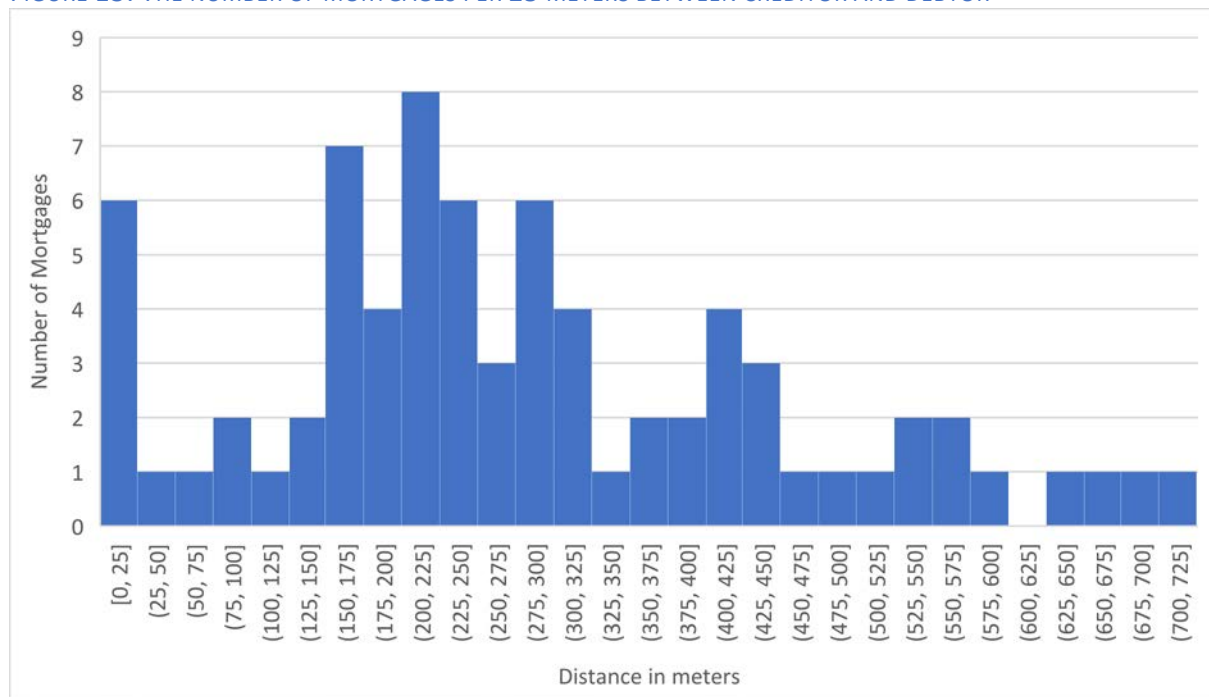
	Cases	Range	Mode	Median	Average
Nijmegen (Individuals)	431	f100 - f70.000	f2.000	f1.700	f3.128
Dataset (Individuals)	297	f100 - f24.000	f2.000	f2.000	f3.099
Dataset (Neighbourhood)	90	f100 - f18.000	f4.000	f2.550	f3.443

Source: Dataset; See chapter "Data".

Once more, the number of cases decreases from 297 to 90. In this case, the number decreases, because it is necessary to have an address. Without an address, the distance between creditor and debtor cannot be measured. Besides the town or village where someone lived, the civil registry did not record the exact address of a creditor or debtor. The population registry has column designated for address, but, in the cases of neighbourhood E, F and G, the population registry frequently did not record an address. The address was probably not recorded, because they were villages close to Nijmegen instead of actual neighbourhoods of Nijmegen. Even when the address is available, it should be reiterated that individuals could only be plotted on a street level due to changes in house numbers in the past century. In certain cases, this was already difficult as the street plan has changed significantly after Nijmegen was bombed in the Second World War. Therefore, the measurements are taken as the crow flies from the middle of the streets in which the creditor and debtor lived. The t-test does not signal a significant difference between the average of the "Dataset (Neighbourhood)" and the average of "Nijmegen (Individuals)" or the average of "Dataset (Individuals)".¹⁹⁹ However, due to the necessity of having a recorded address, the selection will overestimate the size of neighbourhood networks as only those individuals who could have been neighbours in Nijmegen are included in the analysis. For instance, if the creditor or debtor lived outside of Nijmegen, the mortgage would have been removed from the analysis as there is no exact address available.

¹⁹⁹ See Table 20. The t-test gave a p-value of 0.43 for the comparison of averages of the selection with the "Dataset (Individual)" and p-value 0.48 for the comparison of averages of the selection with the "Nijmegen (Individuals)".

FIGURE 13: THE NUMBER OF MORTGAGES PER 25 METERS BETWEEN CREDITOR AND DEBTOR



Source: Maps 2-7 and Dataset; See chapter “Data”.

The predicted pattern of fewer mortgages per increase in distance does not emerge in figure 13. Most creditors and debtors lived around 200 meters from each other, but what does 200 meters mean in the context of Nijmegen? The city was 1200 meters at its widest, but, except for a few creditors and debtors who lived on the outskirts of the city, most creditors and debtors should have been able to find a creditor or debtor within 150 meters of their address.²⁰⁰ While there is no general pattern, there are couple of mortgages arranged within 150 meters and there is even a small spike between 0 and 25 meters. If these creditors and debtors were neighbours or individuals who lived near each other, then 7% of creditors and debtors turned to a neighbour for a mortgage in the “Dataset (Neighbourhood)”. As these mortgages were relatively large, they represented 12% of the total value of the “Dataset (Neighbourhood)”. However, these percentages are based on the assumption that, when there is less than 25 meters between creditor and debtor, then they knew each other, but, when there is more than 25 meters between creditor and debtor, then they were strangers. However, the original assumption only stipulates that a change in distance makes it less or more likely that a creditor and debtor knew each other. It does not definitively prove or disprove that creditor and debtor knew each other from the neighbourhood. Therefore, while figure 13 cannot provide a definitive answer on the exact scope of neighbourhood networks, it is either comparable in

²⁰⁰ See Maps 2-7.

size with the family and work networks or the home address should not be used to establish neighbourhood relations. Individuals were not tied to their homes. Maybe there was a community centre or a place that served as a community centre that brought creditor and debtor together from greater distances.

TABLE 21: THE MORTGAGE MARKET SHARE OF NEIGHBOURHOOD NETWORKS

	Cases	Range	Mode	Median	Average	Total
Dataset (Neighbourhood)	90	f100 - f18.000	f4.000	f2.550	f3.443	f309.889
Matches (Distance < 150 meter)	13	f100 - f18.000	-	f2.500	f4.313	f64.700
Matches (Distance < 25 meter)	6	f500 - f10.000	-	f5.500	f5.186	f36.300

Source: Dataset; See chapter "Data".

Conclusion

In this chapter, this thesis attempts to go beyond the statement of fact that individuals arranged mortgages through social networks. This statement, for instance, raises the question: how could individuals compete with institutions and intermediaries? The literature notes that individuals could arrange mortgages cheaper than institutions or intermediaries. In turn, this raises the question: how could mortgages arranged between individuals be cheaper? The direct interaction between creditor and debtor, of course, meant that nobody needed to be hired to arrange the mortgage, but, if this also entails more risks, then the mortgages would still be relatively expensive. Close relationships kept the risks in check, because it gave access to more information beyond the necessary financial information and resulted in extra social punishment for the individual who broke the agreement.

The final question that this chapter attempts to answer is: how many individuals could have arranged mortgages through networks? Instead of diaries and letters, which are not suitable for large scale research, this thesis uses the day register and population register with which familial, professional, religious or neighbourhood ties between creditor and debtor could be identified. In exchange for the scale, however, these sources cannot provide definitive answers. Based on a comparison of last names, family networks could have been responsible for 4% of the total number mortgages. As these mortgages were relatively small, they only represented 3% of the total value of the mortgage market. However, if creditors and debtors regularly turned to second- or third-degree relatives with different last names, then family networks could be larger. Based on a comparison of work titles, creditors and debtors were colleagues in 7% of cases. Their mortgages were even smaller and only represented 4% of the total value. However, this method only identifies colleagues with a similar profession, but every supply chain requires individuals to interact with different professions. Consequently, work networks might be larger. Based on a comparison of the religious backgrounds, religion could have

been the basis for arranging a mortgage in 8% of cases, because mortgages were arranged measurably more between creditors and debtors of the same religion. However, this comparison presumes that everyone with the same faith knew each other. Based on the distances between the addresses of creditors and debtors, neighbourhood networks were approximately the same size as work networks, when only creditors and debtors who lived 25 meters or less away from each other were considered neighbourhood relations. Unlike the work networks, these mortgages were relatively large and represented 12% of the total value. However, these percentages presume that creditors and debtors knew each other when they lived less than 25 meters away from each other, but were complete strangers when they lived more than 25 meters away from each other.

When these percentages are added together, the networks control approximately a quarter of the mortgage market. This simple sum, however, would ignore the varying issues with the individual percentages from the various networks. It would also ignore potential overlap between the various networks. For instance, a Catholic farmer lending money to his Catholic son who works on a farm in the neighbourhood would be counted four times in the cumulative percentage. Unfortunately, the interaction effects or the importance of one network over the other cannot be determined, because only a few unrepresentative cases remain when every network is analysed simultaneously. Despite this uncertainty, this chapter shows that these networks are either at most responsible for 1 in 4 mortgages in Nijmegen or they are far more complex than this thesis has even begun to uncover.

Conclusion

How did individuals arrange mortgages in Nijmegen between 1879 and 1889? Despite the fact that banks only became active on the mortgage market in the 1860s and large parts of the mortgage market did not use banks before the Second World War, Dutch mortgage historiography almost exclusively focuses on banks. The omission of other methods of arranging mortgages becomes even more apparent when compared to international mortgage historiography in which complex systems of lending and borrowing are described before and after the foundation of banks. In Great Britain, for instance, building societies became large mortgage providers as they could offer the best repayment terms. In Germany, the cooperative mortgage associations outcompeted any competitors as legislation forced all Prussian nobility to support them. In France, notaries could almost monopolise the mortgage market as they controlled information about who owned what real estate. In the USA, national life insurance companies carved out an important position on the mortgage market as their organisational structure were better equipped to handle crises on the real estate and mortgage market. While there have been two recent attempts to bring Dutch mortgage historiography up to date with international mortgage historiography, they were, unfortunately, inconclusive.

Consequently, Dutch mortgage historiography still presents an outdated picture of the Dutch mortgage market in which banks receive most attention as they are considered inherently better than any other method of arranging mortgages. The century-long coexistence of banks and other methods of arranging mortgages did not prove that banks were not intrinsically better. Instead, Dutch mortgage historiography argued that negative social attitudes towards banks limited their expansion, which resulted in room for other methods of arranging mortgages on the mortgage market. Therefore, this thesis attempts to bring Dutch mortgage historiography up to date with international mortgage historiography: a historiography in which banks are no longer inherently better or held back by social attitudes, but needed to compete with other methods of arranging mortgages and were occasionally outcompeted by these methods due to various factors.

To answer the main question, the Dutch mortgage historiography is already very clear about the fact that individuals turned to several kinds of banks, but there were other kinds of institutions which this thesis has labelled “financiers”. While various studies have described individual financiers and their investment portfolios, this thesis makes them a part of the narrative about the Dutch mortgage market. Before this thesis, the literature was divided about the role of notaries on the Dutch mortgage market. Recent studies argued that they could not have arranged mortgages in the Netherlands, but older studies and contemporary sources made the opposite argument. After the arguments from the recent studies were reinterpreted and new arguments were added to the discussion, this thesis showed that the older studies and contemporary sources were actually correct.

Finally, this thesis builds on the occasional historical examples in which creditors and debtors arrange a mortgage directly with each other. This thesis shows that the networks were either relatively small or they were far more complex than this thesis presumes.

TABLE 22: THE APPROXIMATE MORTGAGE MARKET SHARE OF INSTITUTIONS, INTERMEDIARIES AND INDIVIDUALS

	Market share	Cases	Range	Mode	Median	Average	Total
Institutions	25	147	f100 - f143.000	f10.000	f3.000	f7.558	f1.111.050
Intermediaries	34	197	f100 - f15.000	f3.000	f2.300	f3.148	f623.304
Individuals	25	145	f500 - f13.000	f2.000	f2.000	f3.143	f455.735
Unknown	16	91	-	-	-	f2.974	f270.589
Nijmegen	100	581	f100 - f143.000	f2.000	f2.000	f4.243	f2.460.678

Source: Dataset; See chapter “Data”. Except for the figures for “Institutions”, these figures are estimates based on the general characteristics of matches and several debatable assumptions about their market share, which are discussed in the respective chapters.

When the market shares from these different options are simply added together, 84% of the mortgage market could be explained. However, it would ignore uncertainty, overlap and interaction. For instance, the thesis has established that notaries arranged mortgages, but it cannot point at a specific mortgage arranged by a notary. Throughout this thesis and even the previous paragraph, it is also suggested that institutions, intermediaries and individuals were competitors, but there was also cooperation between the various options. Consequently, the 84% should be understood as an approximation. While there are no exact figures, it is possible to provide a framework based on the previous chapters. The framework consists of unavoidable questions that any functional mortgage market needs to resolve in some way. This thesis has explored the response of the Dutch mortgage market to these questions and the consequences of these responses for the Dutch mortgage market. However, this framework should be applicable to any mortgage market and provide insight into the reasons for differences and similarities between mortgage markets.

Repayment terms

1. Who could provide relatively cheap mortgages?
2. Who could provide relatively large mortgages?
3. Who could wait for relatively long repayment periods?

To start with the obvious questions, supply and demand shape a mortgage market. Dutch mortgage banks, for instance, dominated the supply for large mortgages with long repayment periods as other suppliers could not handle the risks with these kinds of mortgages. However, as they needed to offer

relatively high interest rates on their mortgage bonds to acquire funds, they were relatively expensive. Therefore, when debtors did not need large mortgages with a long repayment periods, they frequently turned away from mortgage banks. Dutch financial institutions and financiers were slightly less expensive as they had access to relatively inexpensive funds like savings. Consequently, they could supply smaller mortgages, but even they supplied on average relatively large mortgages. If a debtor wanted a small mortgage with a relatively low interest rate, he or she regularly asked a creditor directly or hired an intermediary.

Legislation

4. Which legislation aided networks, intermediaries and institutions?
5. Which legislation hindered networks, intermediaries and institutions?

If only repayment terms would shape a mortgage market, why would Dutch mortgage banks not collect savings to obtain access to cheaper funds like the German cooperative mortgage associations, which originally also depended on bonds for funds?²⁰¹ To explain this development, it is necessary to examine Dutch legislation. It did not differentiate between depositors and bondholders in the case of a bankruptcy. Both were seen as creditors who the mortgage bank needed to repay. Consequently, if a mortgage bank went bankrupt, bondholders and depositors would be repaid with the repayments from mortgages under Dutch law, despite the fact that bondholders had paid for a bond backed by a mortgage. Therefore, the largest seller and buyer of mortgage bonds demanded that mortgage banks did not offer any savings accounts to safeguard their investment. Dutch legislation did not only work in a negative sense. Dutch legislation, for instance, mandated that notaries needed to write mortgage contracts and gave them the right to publicly sell real estate besides court clerks and bailiffs. Therefore, notaries had access to important information that competitors could not acquire as easily.

Information

6. Who owned, possessed or claimed the real estate?
7. How much was the real estate worth?
8. How reliable was the creditor?
9. How reliable was the debtor?
10. How reliable was the intermediary or institution?
11. How were creditor and debtor brought in contact with each other?

Without information, it is not possible to assess the risks involved in signing a long-term financial contract. If it is not possible to assess risks, then it will negatively influence supply and demand. For

²⁰¹ Wandschneider, 'Lending to lemons', p. 322.

example, who owned the real estate? Without the proof of ownership, creditors could not be certain that the mortgage was actually backed by real estate. A collaboration of the public cadastre and the private notarial archives provided easily accessible and reliable information about ownership in the Netherlands in the 19th century. In contrast to the Netherlands in the 19th century, pre-revolutionary France did not have a public cadastre. Consequently, notaries could monopolise the French mortgage market. Besides ownership, it is also important to know the exact value of the real estate, because, when the real estate is less valuable than the value of the mortgage, creditors are still not completely repaid in the case of bankruptcy. As notaries sold real estate in the Netherlands, notaries could provide accurate estimates. Mortgage banks, on the other hand, needed to hire external estimators. An accurate estimate was even more important for mortgage banks as they were not allowed to lend more than 75% of the real estate value in the Netherlands. When the proof of ownership and value estimate were acquired, creditors and debtors still needed to assess each other's reliability. While the real estate provided security, creditors would want to be simply repaid instead of needing to go through the process of selling a piece of real estate. As most mortgage contracts gave creditors the right to repossess their loan prematurely, debtors needed to be sure that creditors would not just invoke this clause. This thesis argues that creditors and debtors, for example, have depended on family members or other personal relations for arranging mortgages, because they had already information about each other's reliability. Finally, when the necessary information was acquired, it also needed to be exchanged. If there was a personal connection between the creditor and debtor, the information could be exchanged directly. In the case of strangers, an institution or intermediary could serve as a reliable middleman. Like with the creditor and debtor, however, institutions and intermediaries needed to prove their reliability. When two Dutch mortgage banks became embroiled in corruption scandals in 1905, it had a negative effect on the market share of mortgage banks in general.

Organisation

12. What kind of funds existed?
13. What kind of problems in repayment terms, legislation or information did the networks, intermediaries or institutions resolve or improve?
14. What kind of problems in repayment terms, legislation or information did the networks, intermediaries or institutions create or exacerbate?

As in the introduction, the three other factors have already indirectly discussed the questions related to organisation. Mortgage banks, for instance, were better equipped to handle the higher risks with larger mortgages, because they did not rely on the repayments of one or a few mortgages. Due to the large size of their organisations, they could spread the risks of large mortgages. Legislation forced

financial institutions to find different sources of funding like savings and equity, which were less expensive than mortgage bonds. However, these sources forced them in competition with the *prolongatie* system which limited their expansion on the Dutch mortgage market. Notaries had access to extensive information about creditors and debtors, but their total number was only as large as the number of clients who had hired the notary to write a deed in the recent past. Due to personal relations between creditors and debtors, networks could also provide extensive information, but individuals sacrificed their privacy and risked social repercussion if they defaulted. While mortgage bank investors were only liable for the amount invested in the mortgage bank due to legal protection, individual creditors had no specific legal protection, which meant that, besides social repercussion, they were personally liable. Networks could provide relatively inexpensive mortgages, but the supply and demand for mortgages was limited to the number of individuals in the social circle of a creditor and debtor. To conclude, the answers given on these questions shape a mortgage market, but there are no perfect answers.

This thesis has attempted to improve Dutch mortgage historiography and, while it has corrected and expanded certain aspects, there is still much room for improvement. This thesis makes broad statements about the Dutch mortgage market from the foundation of the first mortgage bank in 1860 to the law forbidding notaries from providing banking services in 1931, but, in the end, this thesis is focused on the Nijmegen mortgage market between 1879 and 1889. This focus had especially significant consequences for the quantitative arguments as most of them are only based on 581 mortgages from 1879 and 1889. Even this number was regularly not reached during examinations. Subsequently, it was impossible to run a general regression model, which made more accurate market share estimates unattainable. While the low number of cases affected the qualitative arguments less, the focus also impacted them. For example, this thesis has argued that, due to changes in legislation during the Napoleonic era, notaries became important on the Dutch mortgage market. However, as this thesis has not examined the role of notaries on the Dutch mortgage market prior to the Napoleonic era, this thesis cannot be certain that these changes in legislation were responsible for the importance of notaries on the Nijmegen mortgage market between 1879 and 1889.

Most of the issues presented in the previous paragraph could be resolved by gathering more source material and more data. Instead of only gathering data from the Nijmegen day register in 1879 and 1889, additional years and other cadastral offices could be added to the dataset. The notarial archives could be examined more thoroughly, which would improve the linking process. It would also provide insight into what kind of information was available to the notary about the creditor and debtor instead of the assumption that there was useful information when there was a deed in the

notarial archive. The frequently mentioned letters and diaries should receive more structural attention to obtain definitive answers about the organisational structure and scope of networks. Besides more sources and data, most issues could have simply been avoided if this thesis would not have presented the Nijmegen mortgage market as representative for the entire Dutch mortgage market. The Nijmegen mortgage market could have simply been depicted as a case study. However, this thesis has intentionally made the decision to portray the Nijmegen mortgage market as representative, because this thesis does not necessarily want to be right about the Dutch mortgage market, despite the fact that it stands behind its arguments. It wants to provide a picture of the Dutch mortgage market that future research either confirms or refutes, but cannot simply brush aside as just a case study with unique circumstances. This does not mean that Nijmegen cannot be a case study with unique circumstances, but, if Nijmegen is a unique situation, then future scholars need to explain the exact difference that makes Nijmegen unique instead of this thesis already portraying Nijmegen as unique.

Epilogue

While this thesis discusses an economic history subject and uses a number of theories and methods common to economic history, it should not be read as stereotypical example of economic history research, because it would result in an incomplete comprehension of the arguments and conclusions. As this epilogue only intends to make readers aware of the interdisciplinary character of this research, this epilogue will not analyse every instance when this thesis deviates from the normal practice in economic history. Only two examples will be discussed in this epilogue to illustrate the interdisciplinarity present in this thesis.

Firstly, why does the introduction spend several pages on Dutch literature? This thesis could have simply shown that Dutch mortgage historiography was focused on mortgage banks. As this focus had resulted in very little information about the other methods of arranging mortgage markets, this thesis examines other methods of arranging mortgages. While it is certainly important to be aware of this omission in the literature, it is also necessary to understand the reason behind the omission as it explains the difference in perspective between this thesis and Dutch mortgage historiography. To understand the reason, this thesis uses a discourse analysis, because the omission was not simply the result of too little available data or too few accessible sources. While there is a method called “discourse analysis” within economic history, it should not be confused with the applied discourse analysis which is derived from political and cultural history. In economic history, an actor constructs a discourse, but, in political and cultural history, a discourse shapes the actions of an actor. In the introduction, this different kind of discourse analysis reveals that Dutch mortgage historiography persistently upheld the central premise that banks were intrinsically better than any other method. Even when there was evidence that contradicted this central hypothesis, this premise was not discarded or changed. Instead, the literature found a solution in negative social attitudes. As other branches of Dutch financial historiography had already moved away from this premise in recent decades, this thesis did not need to rewrite the premise. It simply needed to apply the hypothesis that historical actors were not economically irrational. If banks were outcompeted on the Dutch mortgage market, there was a rational reason for this result like the aforementioned factors derived from international mortgage historiography. Without the discourse analysis, there would not have been a hypothesis.

Secondly, why does this thesis spend half a chapter to counter the arguments made by other scholars? If this thesis had only started with the contemporary sources, then it could have immediately shown that the recent studies were incorrect about the role of notaries on the Dutch mortgage market as neither had analysed contemporary sources. Afterwards, it could have deepened our knowledge about the role of notaries on the mortgage market with the two remaining

arguments. To understand the choice to spend half a chapter on counterarguments, the reader should be aware of the fact that this thesis does not argue that the recent studies made incorrect arguments. It argues that the information on which the arguments are based should be reinterpreted. While reinterpretation is sporadically used in economic history, it is far more commonly used in political and cultural history, because reinterpretation allows for far more complexity. In the case of notaries, the reinterpreted arguments discuss the accessibility of notarial archives, the purpose of advertisements, the control mechanism to manage internal competition and the potential sources of information besides the notarial archives. This complexity would not have been discussed if this thesis had not taken half a chapter to reinterpret the arguments made by the recent studies.

A reader might argue that these two examples do not show interdisciplinarity as it only discusses history. While they are linguistically correct, this thesis argues that the different branches of history should be regarded as different disciplines. For instance, this chapter needed to explain that there are two different kinds of discourse analysis within the field of history. However, this thesis could also point to the prominence or absence of statistics in the different branches of history or the dissimilarities in historical philosophy. Regardless of the disciplinary or interdisciplinary nature of this thesis, it is useful to be aware that this thesis applies theories and methods rarely used in economic history.

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