Fostering Credit: Financial Innovation and the Development of the Raiffeisen Credit Cooperatives

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Fostering Credit:
Financial Innovation and the Development of the Raiffeisen Credit Cooperatives

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Abstract

Over the last two decades, the rise of microcredit has cast new light on the age-old question of how to provide credit to the poor. The attention paid to microcredit organizations however, tends to ignore the deeper historical legacy of microfinance, a legacy with important implications for designing successful future lending institutions. German credit cooperatives, which became popular in nineteenth-century Germany despite an already highly developed banking system, are one such example.

This paper examines the social and political context which inspired the development of credit cooperatives before turning to arguments about why cooperatives were able to provide small long-term loans to borrowers without collateral. These arguments center on efficiency advantages cooperatives’ possessed over traditional institutions because of: (1) an ability to capitalize on superior information, and (2) an ability to effectively impose low-cost sanctions on members who have defaulted. Testing these hypotheses against the data yielded by the business records of the first rural credit cooperative founded in Germany, the Heddesdorf cooperative, this research provides qualified support for both efficiency arguments and reveals important considerations for current microfinance efforts.

Introduction

As academics increasingly acknowledge the importance of financial systems in fostering economic growth, more and more economists and policymakers are studying how these systems developed and what makes them effective. Imbedded in this discussion are important questions regarding equity in financial access. What is the best way for a society, an institution, or an individual to provide credit to those that are most in need of financial assistance? How can society structure loans so that they are at once low-risk to the creditor, affordable to the debtor, and sustainable through time? After all, the poor generally have no collateral, and the loans they seek are often too small for traditional financial institutions to find profitable. Yet rates of return for credit provided to the poor are significantly higher than credit extended to other sectors of

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society. And since over a billion people globally live in households with per capita incomes of less than one dollar per day, the ability to extend financial services to the poor could thus foster their independence, alleviate poverty for millions, and boost economic growth for everyone.

The recent rise of microcredit suggests a possible answer. Microcredit institutions extend small, short-term loans to specifically identified individuals. The chance of the debtors defaulting on these loans is then mitigated by enforcement mechanisms involving a mix of social and economic pressure. But the focus on these institutions ignores the historical development of microfinance and microcredit. In fact, efforts to address poverty through the establishment of credit associations began in earnest with the growth of the credit cooperative movement in the mid-nineteenth century. In pursuing their economic goals, these credit cooperatives used social relationships and other innovative institutional adaptations to extend financial access for the poor.

This research focuses on the original Raiffeisen credit association founded in Germany by Friedrich Raiffeisen in 1864. The Heddesdorf credit cooperative, named for the small rural village in which it was located, was typical of later Raiffeisen credit cooperatives. By examining data on the loan activity of this cooperative from 1869 through 1883, we seek to examine several assertions surrounding why these credit cooperatives were able to operate successfully. Were the loans made by the Heddesdorf cooperative in this period consistent with claims made by the economist Timothy Guinnane that the success of the Raiffeisen cooperatives depended on the

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2 MD. Abul Quasem. “Credit Flowing from the Poor to the Rich—The Financial Market and the Role of the Grameen Bank in Rural Bangladesh.” *The Developing Economies*, Vol. 34, no. 4 (Dec., 2001), 1. This argument, which is a common one, operates on the assumption that a small loan to a very poor person will be spent and thus reinvested into the community, whereas a loan to someone who already has sufficient assets may just be saved or used for a less productive purpose.


promise of repeat loans for reliable borrowers? Did the institutional design of the Raiffeisen cooperatives also lower transaction costs, limit adverse selection, and create effective social capital mechanisms to ensure repayment? While the evidence yielded by the business records is descriptive in nature, the results suggest that the Heddesdorf credit cooperative may indeed have benefited from distinctive structural advantages that minimized risk and allowed for more cost-effective loan enforcement.

In limiting the danger of asymmetric information and illiquidity and creating mechanisms to ensure repayment, the Raiffeisen cooperative blended together both social and economic elements. Restricting membership to a single local community and harnessing the resulting network of relationships between members also meant the Raiffeisen cooperatives could more effectively address the specific credit needs of their rural communities. As a result of both their successful economic design and their adaptation to their social environment, the Raiffeisen association has grown to thousands of organizations throughout the world. Behind the story of its success may be important lessons for future microfinance institutions.

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6 Ibid., 413.
Historical Background

Credit cooperatives were first introduced in Germany in the 1850s, but mutual credit associations originated nearly a hundred years earlier following the end of the Seven Years’ War in the province of Silesia. Here, warfare had devastated the area’s infrastructure leaving everyone needing money and land unsalable. The founding of Germany’s oldest credit association, the Schlesische Landschaft, was a direct attempt to provide money and credit to the impoverished nobility in the area by allowing them to use their land to secure mortgages. This particular credit association was formed by all the noble land-owners of the province, whereby each became jointly liable for the payment of principal and interest of mortgage bonds. These bonds were issued to any one member of the association, and were not to exceed in amount one-half the value of that member’s estate. Ultimately, the Schlesische Landschaft was an important part of efforts to restore the region’s economic activity.

And its success quickly led to the establishment of further Landschaften throughout many of the German states. While the particulars of each organization, such as obligatory membership and the terms upon which bonds were issued and members held liable, varied depending on the credit association being discussed, each sought to enlarge its members’ access to credit while ensuring repayment and profitability for the association as a whole. From both the borrower and lender’s point of view, the business done by the various types of credit associations was “eminently satisfactory.” Borrowers found they had increased access to credit, and lenders typically found high repayment rates and a general low default risk.

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8 Frederiksken., 51.
9 Ibid., 57.
The mortgage associations of the mid-eighteenth century thus formed a vital link between the borrowing and lending classes. They helped create a class of investors that “would in America be afraid of investing their savings in mortgages” but could do so in Germany by taking advantage of the high-quality bonds offered by these associations.\textsuperscript{10} By functioning as a viable alternative to traditional mortgage banks, these associations quickly transformed into a vital means of making a part of Germany’s real estate “current,” which is to say liquid and usable for economic activity.\textsuperscript{11} Above all, mutual credit associations for the landed class proved that safe bonds could be locally issued based on land. This was a pivotal first step in paving the way for a broader expansion of credit associations for Germany’s landless workers.

**The 1848 Revolution**

Further impetus for the expansion of cooperative associations occurred after the failed revolutions of 1848, when many German progressives turned to non-political means to help address the cries for social reform articulated by the poverty-stricken working class. The 1848 revolutions, a string of political upheavals that swept through much of Europe, arose from a wide variety of causes dependent as much on local context as from the development of coherent ideological movements. Broadly however, the numerous debates that had been taking place in European society prior to 1848 were important factors. Liberal reformers and more radical thinkers were busy trying to reshape national governments. Meanwhile, technological innovations were revolutionizing the life of the working class and an increasingly free press was extending political awareness and disseminating important new ideas such as liberalism, nationalism, and socialism. Alexis Toqueville, in his book *Recollections*, aptly characterized the

\textsuperscript{10} Ibid., 56-7.
\textsuperscript{11} Fredericksen, Mortgage Banking, 60.
fractured socioeconomic situation when he described European society as cut in two: “those who had nothing united in common envy, and those who had anything united in common terror.”

These new ideas helped inform the revolutionary movement in Germany, where demands for unification, a constitutional regime, a free press, and an unlimited right to political association intermingled with the call for social and economic reform. The social aspect of Germany’s revolutionary movement, termed by one scholar as the ‘primal revolution,’ was the part of the revolution most instrumental in inspiring later German progressives to create economic institutions to help the poor. According to the historian Dieter Dowe, in the primal revolution, the “actions, demands, and aspirations of the [lower-class] population [were] central to the revolution,” and socioeconomic concerns dominated over political aims.

These social and economic concerns have been called the social question by later historians, and in Regulating the Social, George Steinmetz aptly defines their scope. Steinmetz refers to the ‘social’ as the space between the economy and the state, and he defines Germany’s social sphere as “an arena of collective needs, grievances, and disruptions that were related to the transformations in the economic realm.” Steinmetz further suggests that, “insofar as the social represented a threat to order—the order of the state and the capitalist economy—it posed the “social question, or rather a series of social questions.”

Frieda Wunderlich argues in Farm Labor in Germany 1810-1945, that the gradual abolishment of feudalism in the countryside was a major contributing factor in the drive for economic reform which lay at the heart of the social question. Wunderlich believes that as feudalism’s patriarchal relationships disintegrated, the rural laborer became more independent.

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but less able to achieve economic viability.\textsuperscript{15} Legally free but suffering from a shortage of credit, agricultural workers were unable to make the improvements in their land necessary for economic survival in an environment in which globalization and industrialization posed serious challenges to traditional agricultural production. Aside from the dissolution of agrarian feudalism, issues of economic reform also gained prominence because of the rise of mass poverty in Germany in the pre-March period.

Many recent historians have argued that the basic reason for this increase in mass poverty was the so-called ‘demographic revolution’ that took place in the first half of the nineteenth century. In Prussia, for example, the population increased from 10.3 million to 19.5 million between 1815 and 1865.\textsuperscript{16} The structural crisis produced by the population explosion exacerbated problems of falling agricultural prices, rising unemployment, poor wage conditions, famine, and a series of economic crises between 1846 and 1848 to increase demands for an alternate pattern of distribution among the lower classes.\textsuperscript{17}

Yet as the push for economic reform continued, the traditional ruling elite and elements of the middle class began to fear the disruptive potential of the social question. Liberal arguments for social freedom and a market economy were therefore increasingly tempered by an acknowledgement that solving Germany’s pauperism required new institutions which could effectively address modern economic realities within the existing state structure. Still, despite the ultimate failure of the political revolution, German progressives continued to express many of the ideals that inspired the revolution. These included an increased concern for material interests


\textsuperscript{17} Michael Prinz, “Consumer co-operatives’ History with Politics Left in: The German Case,” 368. See also Schwentker, 100. The causes of German poverty tended to be structural and permanent during this time. Explosive demographic growth and the impact of industrialization on the value of labor both lowered wages, while surplus agricultural produce collapsed food prices and lowered agrarian incomes.
and spiritual preservation, tempered faith in the free market, a reliance on the state for preserving order, confidence in social progress, and finally, anxiety about what this social change would mean for the traditional social fabric.\textsuperscript{18} It is in this ongoing conflict to define liberal interests and to foster social harmony that cooperative organizations emerged as a new way to achieve social and economic reform within a (relatively) free economy and a traditional state.

**The German Cooperative Movement**

The development of the Raiffeisen credit cooperatives arose in this decidedly post-revolutionary context. German concern for the traditional order in light of cultural modernism, the perceived danger of socialist revolutions, and the consequences of urbanization and industrialization had all led to a growing awareness among the ruling and middle classes of a need to regulate political, economic, and cultural practices. Baron Vom Stein, a progressive Prussian nobleman, found the thought of further revolution abominable. To avoid it, he believed in the creation of healthy rural and urban working conditions. The Baron wrote, “Organizations for mutual support must be formed, and those sharing in the work should also share in the profit of capital.” Then and only then, “out of a spirit of self-help and fraternity, from the dignity of work and the cooperation of workers at all levels” could a “citizens-state of Germany” arise that would be able to breed a satisfied people.”\textsuperscript{19}

One impulse the co-operative movement sought then, was to resolve the dispute between capital and labor, between the large landowner and the impoverished farmer, the artisan and the industrialist. As Hermann Schulze-Delitzsch, the founder of the first urban cooperative movement in Germany, stated, the establishment of peace between these two antagonist forces of

\textsuperscript{18} Sheehan., 91-2.  
\textsuperscript{19} Sheehan., 33.
society could be bridged only by blending their long-opposing interests, or by making “the working-man his own capitalist.” For Schulze-Delitzsch, the poor had no credit because he was destitute, and he continued to be destitute because he had no credit. Schulze-Delitzsch believed that the domination of the ‘profit motive’ (or the primacy of individual interests) in society was leading to a dangerous and inequitable distribution of wealth and income.

Without extending economic opportunity and creating some measure of equality, this recurring strife between capital and labor would continue to create upheaval between two “necessarily antagonist forces with different interests, different aims, and different aspirations.” For Schulze-Delitzsch and other liberal thinkers, the possessing class and the lower class were divided into two belligerent parties between whom peace would only be established from time to time until a measure of economic equality was finally achieved. In order to break this cycle, the provision of credit to the poor was required. To do this, one needed only to create a moral and social guarantee that was as secure as collateral. The economic innovations of credit cooperatives thus lie in their ability to use social capital to overcome asymmetric information and repayment issues.

The Raiffeisen Credit Associations

Friedrich Raiffeisen was less overtly political than Schulze-Delitzsch. Like his urban counterpart, however, Raiffeisen also sought to “capitalize honesty” and to encourage thrift, industriousness, sobriety, and honest among cooperative members in order to improve their material conditions and counter “moral decay.” Raiffeisen’s emphasis on morality and

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20 Wolff., 2.
21 Wolff., 2.
22 Wolff., 18.
23 Wolff., 4.
traditional values, developed in his childhood and honed during his career as a rural mayor, underscored his view that economic institutions depended on their social context and vice versa. Thus when Raiffeisen wrote that, “Moral forces based on Christian principles are indispensable in order to solve social problems,” and “the affectionate concern of the possessing classes for the poorer ones, through the ties offered by this type of cooperative society, is the only way to form the proper guild of the future” he is arguing that economic prosperity for the lower classes can only be achieved by utilizing traditional social institutions and relationships to strengthen the financial mechanisms of his cooperative institution.24

Ultimately, Raiffeisen believed that through credit cooperatives, needy peasants could acquire and improve upon their land, “thereby reducing the proletariat, enlarging the size and raising the value of real estate, and increasing extraordinarily agricultural production.”25 In common with Schulze-Delitzsch but originating from a more moral and conservative perspective, Raiffeisen believed that only through the extension of credit to the rural peasantry could economic prosperity be assured.26

The Rural Context in Germany

Raiffeisen’s focus on providing credit for strictly agricultural areas was obviously influenced by the realities he confronted as a rural mayor. Robert Moeller argues in his book,

24 Raiffeisen., 39. Raiffeisen cooperatives, particularly in their early stages, were almost always organized on Parish lines. They often also had the local priest involved on the management committee. This was the case with the Heddesdorf cooperative. For a further development of this argument see Helmut Walser Smith’s, German Nationalism and Religious Conflict: Culture, Ideology, Politics, 1870-1914 (Princeton: Princeton University Press, 1995), 79-92. Smith argues that religion, like class, was a central category defining Germans. He then goes on to argue that secularization followed an essentially linear path in Germany, in which society transitioned from an agrarian world ordered by religion to a “differentiated, industrial society emancipated from religious belief.” Thus Smith argues that, “Political views were often articulated in religious language, conservative political mobilization remained a largely Protestant domain [in Prussia], and religious allegiances influenced responses to social problems.
25 Raiffeisen., 23.
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*German Peasants and Agrarian Politics*, that economic concerns dominated the interests of peasant farmers more than other sectors of society. He states:

“The borders between the structure of economic enterprise and the family are unclear when family members constitute the farm’s labor force and when co-workers, related by blood, share a common table and residence. The family farm is at once the site of production and of consumption, both the workplace and home. The economic decision to expand livestock herds or to introduce a new crop rotation, for example, has an immediate impact on familial relations; new patterns of production mean a renegotiated division of labor within their family.”

So, not only did the Raiffeisen union transcend the economic sphere by virtue of the relationship between economic enterprise and family in agricultural regions, but the Raiffeisen cooperatives were also unique in their focus on providing long-term agricultural credit. This focus had its roots in the process of peasant emancipation and the problems it had created for the small farmer, who, “must now buy his tools, manure, and seeds,” in order to “cultivate to advantage the land which we are, most of us, at any rate professedly willing to place in his possession.” The importance of providing credit at affordable interest rates was, in turn, vital for the “successful adaptation and integration of peasant producers into a capitalist economy.” Without long-term credit, the farmer would not be able to repay his debts or make the necessary improvements to his land or capital that would allow him to join the middle class.

Improvements in the agricultural economy tend to involve either material improvements or improvements in the institutional and agrarian structure. For example, physical changes might involve the mechanization of certain processes, while an institutional change could be changing the source of credit from a private moneylender to rural credit cooperative. The relationship between the two is an interdependent one. Ungku Aziz argues in “Cooperation as a Method to..."

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28 Wolff., 66.
29 Moeller., 32.
Increase Agricultural Productivity,” that Germany’s large imbalance between income levels of farms on the one side, and the landed or mercantile class on the other, made cooperative loans even more desirable. This is because the Raiffeisen loan structure, which was designed to increase the productivity of a farmer’s resources, helped poor farmers avoid going into a state of indebtedness “that might mean the loss of land, livestock, or tools.”

Without these improvements, small and lower middle-class groups of farmers would be unable to exist within a context that increasingly demanded large-scale production.

Nothing short of Germany’s future hung in the balance. Raiffeisen wrote, “The well-being of the entire society and also of the State depends on the solid status of the rural, mainly agricultural sector of the population. The question of how to bring about the necessary help is one of the most urgent problems of our day, if not the most important aim of social reform.”

The economic and social spheres were thus irrevocably intertwined in agrarian Germany, and the formation of an organization that could address the material realities of peasant life and help to integrate peasants into a capitalist economy had to combine social and economic aspects into one institution.

31 Aziz., 21.
32 Raiffeisen., 33.
Cooperatives as Economic Institutions

Turning from the social and historical context in which Raiffeisen cooperatives developed, we can now examine their operation as an economic institution. Although they are often overshadowed by Germany’s universal banks, credit cooperatives were vital in providing financial access to Germany’s working class. Their successful approach is echoed by their explosive growth. By 1908 for example, Raiffeisen cooperatives counted over 400,000 members in over 4,000 separate societies. Collectively, cooperative institutions had deposits of over four hundred million marks representing nearly 6.8 percent of Germany’s financial assets. Although still a small percentage of Germany’s total banking assets, cooperatives were very influential. The Raiffeisen union director in 1908 for example, estimated that cooperatives were responsible for a full one percent reduction in the interest rate and thus the cheapening of credit to that extent. Other economists estimate that the impact of cooperatives was even more pronounced within their respective geographic area, lowering interest rates as much as 10-15 percent for local members. As vital as the social and ideological precepts of cooperatives were for promoting their development, it was truly the cooperatives’ ability to out-compete other financial institutions in serving “the urban artisans and rural smallholders that formed the basis of [their] membership” that fueled their sustained growth.

In their development, credit cooperatives had four principle competitors: the large central Kreditbanken on which so much research is focused, the Sparkassen or savings banks, the Privatbanken (private banks), and local moneylenders. Each of these financial systems had

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35 Guinnane, “Cooperatives As Information Machines: German Rural Credit Cooperatives, 1883-1914,” 368.
36 Guinnane, Germany’s Banking System, 90.
different structures and goals, which led the four types of banks to be distinguished by their different “assets and liabilities, ownership, legal status and limitations, and clientele.” The Sparkassen for example, were an attempt to provide a “safe place for urban poor and middle-class people to deposit their savings” in order to earn interest on their deposits. As such, they were conservative in their asset composition, focusing mostly on real estate and government paper. The private banks, which developed in the late 18th century, were primarily a means to finance trade and government debt, offering both loans and investment-banking services. Germany’s universal credit banks on the other hand, were a larger more capitalized form of the private banks that offered a broader range of services. Together the Privatbanken and the Kreditbanken stimulated Germany’s economic development by providing lending services targeted for industrial and commercial purposes.

Credit cooperatives, the Sparkassen, and moneylenders were all more concerned with extending the range of financial services for individual members of society than the larger banks. Cooperatives in particular, were geared towards providing loans to the poor in order to foster their economic emancipation. In part because of their competition with other types of banks, however, cooperatives were not only active in extending loans but engaged in many of the deposit services that Sparkassen did. Members could conveniently deposit their savings with the cooperative and would expect to receive moderate interest payments on these deposits. These deposits were time deposits, meaning the members received the deposits plus interest upon the expiration of the specified time. In order to withdraw their money, members typically had to give

39 The summary of the various types of German banks in the latter half of the 19th century is provided by Timothy Guinnane, in his article, “Germany’s Banking System, 1800-1914” and also in “Cooperatives as Information Machines.” Along with a descriptive overview of the banks, Guinnane also provides a useful table on page 81 of “Delegated Monitors” which breaks down Germany’s financial institutions by percentage of total assets from 1860 to 1913.
a three month withdrawal notice. From the cooperatives’ point of view, these deposits, which came from both members and nonmembers alike, constituted their primary liabilities, and were used as capital for the lending side of the business. Given the long loans typically extended by the Raiffeisen cooperatives and the shorter-term nature of these deposits, this meant that rural cooperatives were often lending long and borrowing short.40

The cooperatives’ success in lending to a “difficult clientele” was a result of their structural advantages over the other banking institutions and their foundation as a self-help savings mobilization movement. Both of these factors enabled them to extend cheap credit with minimal risk of default.41 Timothy Guinnane, the author of an extensive series of articles exploring the operation of Raiffeisen credit cooperatives, suggests three principle ways in which the cooperatives were better able to overcome asymmetric information and loan enforcement issues than conventional banks.

The first view emphasizes the role of the community in “sustaining non-opportunistic behavior among participants.”42 Here, the presence of social ties not available to more traditional banks greatly strengthened the ability of the cooperative to impose effective low-cost sanctions on defaulters. The second view is a game theory approach in which the cooperative is sustained by repeated interactions. This view stresses how the combination of a restricted geographic area of operation and repeated interactions between members allowed cooperatives to gain better information about borrowers over time. The importance of remaining a member of the cooperative for both social status and future access to credit also provided an incentive for

41 Guinnane, Germany’s Banking System, 82.
members to curtail “private optimal, shortsighted behavior” for the good of the collective.43

Because Guinnane believes both of the first two views depend on “durable long-term relations”
among either individual members or between members and the institution, he calls this argument
for cooperative efficiency the long-term interaction view of credit cooperatives.44

The third view for why cooperatives were successful depends on the argument that
cooperatives were more efficient than other banks in screening and monitoring borrowers. This
efficiency advantage has been called by Guinnane and others the peer monitoring view. Here,
neighbors are assumed to have better information about borrowers than banks, and the challenge
for cooperatives is to structure themselves in such a way that members have an incentive to
monitor one another. Guinnane argues that Raiffeisen cooperatives imbedded these incentives
within three constitutional provisions: (1) joint liability, or the process by which some or all of
the other members of the cooperative may be made liable for any loan on which the cooperative
defaults; (2) the use of cosigners to secure individual loans, and (3) the use of dividends to create
incentives for the profitable repayment of loans.45 Both the long-term interaction and peer
monitoring viewpoints suggest ways in which credit cooperatives could function more efficiently
than traditional banks in providing services to its members. They also yield important insights
into how a credit association should structure itself regarding liability, financing, interest, scope
of operations, and day-to-day business.

In banking terminology, a bank’s services to its investors is usually called ‘delegated
monitoring,’ and consists of screening borrowers, monitoring their conduct, auditing their ability

to repay loans, and enforcing the terms of loan contracts.\textsuperscript{46} According to Guinnane (2002), how a bank functions as a delegated monitor, or financial intermediary, depends on two types of information problems. The first concerns the informational asymmetry between a banker and the bank’s depositors. Since a banker inherently knows more about the projects a bank has funded, he could theoretically take advantage of depositors for self-profit. Cooperatives avoided this problem altogether by utilizing a “bottom up” approach, in which members owned and controlled the organization. Each individual cooperative decided who could become a member, and all members could participate on “an equal basis in elections for management positions and on the important policy issues put to a general vote.”\textsuperscript{47} By giving each member the incentive to act honestly, the cooperative structure thus minimized the first form of informational asymmetry. The second information problem focuses on how a bank acts as a delegated monitor. Questions about how the organization should be designed, who to lend to, how to structure loans, and what other kinds of terms it requires to secure loans all arise in addressing how the Raiffeisen cooperatives provided their financial services.\textsuperscript{48} The way in which the Heddesdorf cooperative addressed this second information question forms the basis for my research.

Many economic historians for example, argue that loan organization casts light on an institution’s informational shortcomings. Thus the way a bank structures a loan is an important signal about what information it lacks. Collateral, short-term loans, and cosigners were all mechanisms banks used to try and ensure repayment or filter out those applicants to whom extending a loan would be undesirable. According to Guinnane (2001), the loan policies of rural German credit associations showed that information and enforcement were not serious problems.

\textsuperscript{47} Guinnane. “Delegated Monitors,” 90.
\textsuperscript{48} Guinnane. “Delegated Monitors,” 75.
First, the Raiffeisen cooperatives all made long term loans. In fact, in 1870 only 10 percent of loans had a repayment period less than one year while nearly 60 percent had a repayment period of one to five years. By 1901 this percentage had grown still further; 21 percent of all outstanding loans from Raiffeisen credit cooperatives had a term of ten or more years and another 70 percent had a term of one to ten years.\footnote{Guinnane. “Cooperatives as Information Machines,” 379.}

As we have argued, these long term loans were largely a response to the seasonality and variability of agricultural industry. The German academic, Theodor Kraus, for example, argued that agriculturalists needed credit for longer periods than the urban workers and small businessmen in order to make the investments needed to make their land productive and to bridge the gap between harvest cycles.\footnote{Guinnane, “Delegated Monitors,” 90.} The ability of Raiffeisen cooperatives to extend long-term loans while safeguarding member deposits was widely recognized. During two great wars, in both 1866 and 1870, when individuals were removing deposits from other banks en masse, “deposits were actually pressed upon the Raiffeisen Banks for safe keeping, though it should be without any interest at all.”\footnote{Wolff., 139.}

Credit cooperatives also allowed individuals as cosigners that would not be acceptable to other formal lenders. Cosigners for a cooperative-approved loan could have relatively few assets of their own to pledge against the loan or even have borrowed large amounts of their own. Many times these cosigners were even related to the debtor! Guinnane (2001) argues that the acceptance of nearly all cosigners, regardless of wealth or social status, meant that the cooperative had a great deal of information about the people securing loans and were thus less worried about overall loan security. This implies that rural cooperatives depended on the “dense
economic and noneconomic relationships” between members to lower the cost of sorting out risks and to “keep an eye on borrowers once loans were taken.”

The Raiffeisen unions were able to depend on this social web, at least in part because of their small size and local organization. By intentionally restricting their operations to a small geographic area and a small number of people, actual and potential members of a cooperative would “enjoy considerable knowledge of each other’s habits, character, and abilities.” In 1913, the Raiffeisen cooperatives reported that 80 percent of its cooperatives operated in areas with fewer than 3,000 inhabitants. In effect, members screened potential borrowers and monitored those who had loans extended to them because they were part of the same intimate community. As Guinnane puts it, “peasant nosiness forms the basis of the efficiency hypothesis.”

Geographic restriction also allowed cooperatives to impose economic sanctions or extra-economic (social) sanctions on defaulters at a low cost. Because cooperatives were locally based, expelled members no longer had access to any cooperative credit and had to avail themselves to the much less favorable loan terms provided by moneylenders and large banks. Ex-members also faced the costly public knowledge of their dismissal from the cooperative. In a historical context in which the village remained the primary social unit, ostracism and public disgrace provided a powerful incentive for repaying one’s loans. Such a dismissal may also have limited further opportunities for conducting business in the area. The effectiveness of such penalties was, in turn, vital because the small size of most cooperative loans precluded more expensive monitoring and sanctioning. In fact, Guinnane argues that the small loan amounts sought out by most borrowers was only possible because of the low-cost of information about members. Local

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52 Guinnane, “Cooperatives as Information Machines,” 381, 386.
53 Ibid., 368.
54 Guinnane, Cooperatives as Information Machines, 370.
membership thus limited the risk of adverse selection and imperfect enforcement that are common to all financial institutions.

While their small size and limited area conveyed certain advantages, it also meant that credit associations faced severe forms of the liquidity and confidence problems that beset any financial institution. In an effort to mitigate this problem, different associations developed supra-local structures. Centrals, or Centralkassen, were a form of regional cooperative bank that accepted surplus deposits from and made loans to local cooperatives (as well as to other financial institutions and to the capital market at large).\(^{55}\) For individual cooperatives, membership to a Central helped convince the public that the ill-liquid financing of “long-term loans out of short-term deposits” did not threaten solvency.\(^{56}\) Each individual cooperative, particularly in rural areas where members relied on similar economic activities, could benefit from membership in a regional association because they guaranteed access to liquidity and smoothed seasonal fluctuations in loan demands and withdrawals. In addition, centrals gave cooperatives with more deposits than loans a safe place to invest their money, provided bridge loans to struggling cooperatives, and ensured sufficient start-up capital for some incipient associations.\(^{57}\) To summarize, centrals helped mitigate credit associations’ regional weaknesses, permitting them to utilize the local ties needed to successfully target borrowers without collateral.

In addition to centrals, most cooperatives also belonged to an auditing association. By examining the cooperatives’ business practices and recordkeeping, these associations insured that the public could expect certain rules to be adhered to. Auditors often also provided the cooperatives’ treasurer with instruction and technical assistance in order to minimize future

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\(^{55}\) Guinnane, Cooperatives as Information Machines, 369.
\(^{56}\) Timothy Guinnane, “Regional Organizations in the German cooperative Banking system in the Late 19\textsuperscript{th} Century.” Research in Economics (1997), 251.
\(^{57}\) Ibid., 259.
information errors.\textsuperscript{58} This was particularly vital since most cooperatives relied on local management whose banking prowess was often distrusted by outsiders. A successful audit, signaled to potential members and depositors that a cooperative was well-run.\textsuperscript{59} Different cooperatives utilized auditing associations very differently however. Schulze-Delitzsch cooperatives recommended periodic audits but successfully resisted compulsory audits on the basis that such a practice might create a moral hazard issue where the auditing was seen to substitute for internal vigilance.\textsuperscript{60} Raiffeisen cooperatives, however, mandated audits at least every other year, believing this to be an indispensable way to foster trust in individual cooperatives.

The different use of auditing associations between the Raiffeisen and Schulze-Delitzsch organizations underscores some of the major differences between rural and urban cooperatives. The most obvious difference is in their loan policies. Whereas the Schulze-Delitzsch cooperatives extended short-term loans, typically lasting only three months, the Raiffeisen organizations concentrated on long term loans, most of which ranged from one to five years. This difference, resulting from the unique credit needs of agriculturalists, reflects the more restricted membership and intimate social nature of Raiffeisen cooperatives. Guinnane argues that because the Schulze-Delitzsch cooperatives operated in urban areas, “where members might have little contact with one another and have less, if any, of the dense economic and noneconomic relationships that characterized the membership of the rural cooperatives,” their lending practices more closely resembled those of traditional banks.\textsuperscript{61}

\textsuperscript{58}Guinnane. “Regional Organizations in the German cooperative banking system in the late 19\textsuperscript{th} century,” 263.
\textsuperscript{59}Timothy Guinnane. “A Friend and Advisor: Management, Auditors, and Confidence in Germany’s Credit Cooperatives, 1889-1914.” \textit{Center Discussion Paper No. 824} (May 2001), 1, 16.
\textsuperscript{60}Guinnane, A Friend and Advisor, 17.
\textsuperscript{61}Guinnane, “Cooperatives as Information Machines,” 381.
Schulze-Delitzsch cooperatives thus had larger membership fees, instituted valuable shares to raise capital, discouraged the very poor from joining, and paid larger dividends to members in order to attract deposits and maintain the advantages of membership than did rural cooperatives. Raiffeisen cooperatives, on the other hand, had only nominal or small shares and relied on deposits for capital. The Schulze-Delitzsch organizations also embraced limited liability for their members far more rapidly than the Raiffeisen organizations following the 1889 cooperative law. Overall, these differences only strengthen the argument that Raiffeisen cooperatives had an efficiency advantage over more traditional banks when extending loans.

The rural and often isolated location of Raiffeisen cooperatives also made them attractive as savings institutions for members who were not seeking loans. Guinnane (2001) argues that these non-borrowing members were vital for the functioning of the cooperative for several reasons. First, membership implied liability for the cooperatives’ loans, meaning non-borrowers were important for monitoring how deposits were used, having every incentive to “report the unwise use of credit.” Effectively, these members helped prevent collusive arrangements among borrowing members, which prevented the first type of informational asymmetry from developing. Second, non-borrowers often acted as cosigners on the loans of others. Guinnane contends that in this capacity non-borrowing members could screen individual borrowers and “function as a delegated monitor once a loan has been made.” Finally, the social and economic

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62 Guinnane. “Cooperatives as Information Machines,” 369. The 1889 law allowed cooperatives to utilize limited-liability for their members. Prior to 1889, all cooperatives had to have unlimited liability, where all members, regardless of level of wealth, could be responsible for the full amount of the cooperatives’ liabilities.
63 Guinnane. “Cooperatives as Information Machines,” 371. This may have because of the absence of alternative savings institutions such as Sparkassen and the convenience of depositing one’s money locally.
64 Guinnane. “Cooperatives as Information Machines,” 372.
relationship between a cosigner and borrower also gave borrowers better incentives to “work hard and to use safe production methods.”

The role of non-borrowing members highlights the importance of the interaction between the Raiffeisen cooperatives’ economic mission and its social and ideological underpinnings. Raiffeisen’s notions of community self-help, Christian values of neighborly concern, and the mutual dependence of one’s income on the fortunes of the greater community for example, all fostered the widespread involvement in the cooperative necessary for its success in overcoming information and enforcement issues. Guinnane concludes that because of their ability to “capitalize on superior information and to impose inexpensive but effective sanctions on defaulters,” cooperative banking arrangements were superior in providing “liquidity and payment services, risk management, and information processing” for the traditionally underserved. Ultimately, cooperative lending policy was different because of their ability to tap into social capital, and the cooperative organization and method of doing business reflected this difference.

But are the theoretical arguments for cooperative efficiency reflected in the actual operation of rural credit cooperatives? Turning to the Heddesdorf cooperative, we can now test the long-term interaction and peer monitoring arguments advanced by Timothy Guinnane. The data allow us to compare five independent yet related hypotheses. They are that:

1. Social ties lowered the risks of asymmetric information
2. Repeated transactions lowered the risk of asymmetric information and provided an incentive for loan repayment
3. Monitoring was efficient and effective in reducing adverse selection
4. Social networks and geographic restriction created effective sanctions for nonpayment

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(5) The cooperative benefited from low transaction costs through voluntary labor, local monitoring, and the pressure social relationships created for debt repayment.

**The Heddesdorf Credit Cooperative**

In testing the above hypotheses, this paper uses the organization and transaction records of the Heddesdorf credit cooperative between 1869 and 1884. The Heddesdorf credit cooperative, located in the small rural town of Heddesdorf along the Rhine in the southwest of Prussia, was the first cooperative founded by Friedrich Raiffeisen. According to its statutes, the cooperative was founded for “the purpose of putting members into a position to enjoy the fruits of their labor and achieve the utmost independence through the advancement of credits which…will protect members against poverty and its detrimental consequences.”

The business records of the Heddesdorf cooperative detail the organizational structure of the cooperative as well as every loan transaction they engaged in. These listed transactions record the name of the creditor, the name of the co-signer(s) securing the loan, the loan amount, the duration of the loan, the geographic location of the cosigner (if it was different than Heddesdorf), and sometimes, the original purpose of the loan. Despite their richness, the Heddesdorf records are far from perfect. The biggest difficulty in working with them is that they are sometimes incomplete, especially in the earlier years. Furthermore, the data they contain is not suitable for more rigorous quantitative analysis, but is more descriptive in nature.

Nevertheless, the records do provide a glimpse into how Raiffeisen credit cooperatives functioned. The case study is laid out in three sections: it begins with the organizational structure of the Heddesdorf cooperative, follows with general data concerning the overall growth in the

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68 Raiffeisen Dokumente, *Die Protokollbücher des Heddesdorfer Darlehnskassen Vereins 1864-1899*, edited by Walter Koch (Dachau: Dr. Walter Koch, 1992). The Heddesdorf cooperative convened for the first time on July 24, 1864, but reformed in 1869. While the reasons for reconstituting the organization remain unclear, the cooperative appears to have retained its original framework and membership, making this transition relatively unproblematic from the point of view of studying the cooperative’s economic operation.
cooperatives’ operation, and ends with examining the loan transaction data in comparison with the hypotheses advanced above. As will be shown, the structure and operation of the Heddesdorf cooperative provides qualified support for all five of the ‘testable hypotheses’ articulated above, lending credence to the argument that the Raiffeisen cooperatives succeeded because of their ability to capitalize on superior information and effective low-cost enforcement when providing long-term loans.

**Organizational Structure**

The Heddesdorf Cooperative had two managerial bodies. First, there was the *Vorstand*, or management committee, which consisted of one director and at least four other members. According to Raiffeisen, the *Vorstand*, “represents the cooperative society legally as well as extrajudicially and administers its business conforming to the legal and statutory regulations.” Elected for two year terms, the management committee made most of the important decisions at their monthly meetings such as accepting new members, granting loans, controlling accounts with the Centrals, and so on. Next there was the supervising committee, or *Aufsichtstrat*, which consisted of at least twelve members serving on staggered two year terms. The *Aufsichtstrat* met quarterly and its primary task was to oversee the *Vorstand*, essentially functioning as a sort of internal auditor by reviewing and approving the management committee’s decisions. On some important matters, such as extending very large loans or approving a loan to a *Vorstand* member, the supervising committee actually had first say. Finally there was the membership as a whole, the *Generalversammlung*, which met at least annually to elect the previous two committees and review the cooperatives’ operation. The general membership also decided on basic policies, such

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as setting the interest rate on both loans and deposits. According to Raiffeisen, “the general assembly was sovereign,” the place where all members could exercise their rights within the society.

This three tiered system, common to all Raiffeisen cooperatives, helped to create a system of checks and balances to align individual interests with those of the broader membership. Because members were simultaneously the cooperatives’ depositors and its management, responsible for the business operations of the cooperative, the first informational asymmetry between depositors and management simply did not exist. And aside from the efficiency advantage achieved by this democratic organizational structure, the Heddesdorf committees were also effective in lowering the transaction costs of conducting business, lending support for hypothesis five. This is because both the management and supervisory committees were comprised of members who did not receive payment. Thus substantial aspects of the cooperatives business were managed for little to no monetary costs. For example, the management committee decided on which loans to approve (and issued “the legally binding loan and deposit certificates” to borrowers and cosigners) on a monthly basis while also reviewing the cooperatives’ books at the end of every year, while the supervisory committee reviewed the guarantors of each outstanding loan on an annual basis, as well as performing general monitoring tasks to ensure that the general interests of the cooperative were being met.

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70 Timothy Guinnane. “A Friend and Advisor: Management, Auditors, and Confidence in Germany’s Credit Cooperatives, 1889-1914.” Center Discussion Paper No. 824 (May 2001), 5. Guinnane also details the local structure of the Raiffeisen credit cooperatives in his “Cooperatives as Information Machines” article.

This is not to say that the cooperative depended on voluntary labor for its survival. In addition to the three committees, each cooperative also employed a treasurer. The treasurer was the single most important person in the cooperative, or as Raiffeisen put it, he was the “quasi-soul of the Union.”\textsuperscript{74} The Heddesdorf treasurer served a four year term and was paid a salary determined by the general assembly.\textsuperscript{75} His responsibilities included tracking all deposits and loans, preparing promissory notes, compiling monthly and annual reports, and attending to many other day-to-day business matters. The voluntary nature of the treasurer’s labor within some credit cooperatives has caused a few economists to argue that this unpaid labor was critical to their survival.\textsuperscript{76} Guinnane (2001) finds, however, that even those credit associations that did pay their managers did not noticeably alter their loan rates.\textsuperscript{77} Thus, he argues that the vast majority of credit associations could have paid their managers without any substantive difference in their profitability and hence survivability.

**Membership**

While membership in the Heddesdorf cooperative was open, it was not guaranteed. The statutes limited membership to citizens in Heddesdorf that met with the approval of the administrative committee. Raiffeisen repeatedly indicates that this should be honest, thrifty, and hardworking folk. Notably, women could become members, but they were denied voting rights.\textsuperscript{78} Once accepted, all members (except women) had an equal right to participation and

\textsuperscript{74} Raiffeisen., 67.
\textsuperscript{75} See Die Protokollbücher des Heddesdorfer Darlehnskassen Vereins 1864-1899, Statute 25.
\textsuperscript{76} Guinnane, “Cooperatives as Information Machines,” 375. The treasurer was usually compensated, although compensation remained small, both in relative and absolute amounts. Committee members served on a voluntary basis.
\textsuperscript{77} The Heddesdorf loan rate of 5% is comparable to the loan rates of the Raiffeisen cooperatives studied by Guinnane.
\textsuperscript{78} Raiffeisen Dokumente, Die Protokollbücher des Heddesdorfer Darlehnskassen Vereins 1864-1899, §6-10.
equal representation via voting rights. The geographic restriction placed on membership was vital to the operation of the cooperative.

First, the biannual meeting of the general assembly and the monthly meetings of the management committee were more convenient and lower cost for nearby members. These meetings and the voting process via absolute majority would simply not have been feasible in a larger and less confined organization.\textsuperscript{79} For the system to work well, however, members needed to take an active role in the cooperative. For Heddesdorf, this appears not to have been an issue. During the general assembly’s biannual meetings, members of the administrative committee who were not in attendance (without a sufficient excuse) were fined two silbergroschen. This money was then used to buy drinks for everyone at the meeting, underscoring the close and intimate nature of the cooperative. Aside from turning individual absences into cause for celebration, this system probably also helped insure adequate participation and involvement of the committee members.

Of far more importance, however, was the need for members to know one another, both for aspects of the day-to-day operation of the cooperative and because members were jointly liable for one another’s debt. Raiffeisen believed that restricted membership was essential to improving the material standing of members. He wrote, “Because of their small size, constant communication with each other, common interests and going to church together, connections between relatives and friends, the residents [of a Parish] have very detailed knowledge of each others’ family and monetary conditions.”\textsuperscript{80} Overall, geographic restriction created a web of social relationships between members, lending support to hypotheses one and three, which argue

\textsuperscript{79} Brett Fairbairn argues in his 1994 article “History from the Ecological Perspective: Gaia Theory and the Problem of Cooperatives in Turn-of-the-Century Germany,” that the Raiffeisen cooperative’s local membership was effective in allowing a diverse group of individuals to articulate their needs and interests thereby “channeling the views and opinions held by the majority of the membership into effective decisions and actions.”

\textsuperscript{80} Raiffeisen., 37.
that social relationships lowered information asymmetries and created effective monitoring mechanisms.\textsuperscript{81}

The initial composition of the Heddesdorf management committee demonstrates how these traditional social relationships lowered the risk and cost of issuing loans. Aside from Raiffeisen, the other original members consisted of “Lehrer Lauf, Pfarrer Kauffmann, Gerichtsschöffe Ph. Siemeister and Gerichtsschöffe Wilhelm Hof.”\textsuperscript{82} Thus the original members of the Heddesdorf cooperative management committee consisted of the local mayor, a teacher, a priest, and two municipal magistrates. The use of a priest, teacher, and local politicians to organize cooperative efforts was a structure incorporated by many later Raiffeisen associations.\textsuperscript{83}

Much of the impetus for this structure likely resulted precisely because people occupying these positions had the extensive social contacts necessary to effectively screen potential members and review each loan application. Having members with extensive personal relationships within the community serve on the management committee therefore provided a low-cost method to assess the suitability of potential borrowers and monitor the repayment of already existing loans because members could monitor borrowers as “part of their daily activities.”\textsuperscript{84} The argument for local membership and social relationships as a cornerstone of the efficiency hypothesis is only strengthened in the subsequent section examining the actual pattern of loan transactions.

\textsuperscript{81} Guinnane, Cooperatives as Information Machines, 370. Guinnane’s assertion that “peasant nosiness forms the basis of the efficiency hypothesis” stems from these two hypotheses.

\textsuperscript{82} Raiffeisen Dokumente, \textit{Die Protokollbücher des Heddesdorfer Darlehnskassen Vereins 1864-1899}, edited by Walter Koch (Dachau: Dr. Walter Koch, 1992), 16.


\textsuperscript{84} Guinnane, “Cooperatives as Information Machines,” 370.
Once approved by the committee, new members were required to pay a membership fee of twenty silbergroschen.\textsuperscript{85} This fee was payable in two rates. Members paid the first half up front, and the second half could be paid over the following months. An additional capital contribution of twenty thalers was also required in order to join.\textsuperscript{86} Payments of these contributions were to be made on the first of every month in the amount of 5-10 silbergroschen until the total was reached. These capital contributions were viewed as a credit from the individuals to the association. Members were refunded these contributions and received 5 percent interest upon it when they left the cooperative—provided they had fulfilled all their obligations beforehand. The membership fee, on the other hand, was owned collectively by the organization and was used to capitalize the reserve fund, whose primary purpose was to protect the cooperative against any losses.

For the Heddesdorf cooperative (and unlike their urban counterparts), the value of this fee was nominal. In fact, Raiffeisen was opposed to shares and the Raiffeisen union only adopted them following a court decision mandating their use.\textsuperscript{87} This opposition to large business shares, which originated partially because Raiffeisen wanted to include the very poor in the cooperative, is indicative of two things. First, that the Heddesdorf cooperative was not primarily concerned with capitalization issues, and second, that asymmetric information may not have been a serious issue. The first point is obvious; larger shares would have raised more capital faster (but prevented the very poor from becoming members). The second point, however, requires some explanation.

\textsuperscript{85} One Silbergroschen was equal to ten Pfenning (penny). A mark in turn was equal to 100 pfenning making a silbergroschen \(1/10\textsuperscript{th}\) of a mark.

\textsuperscript{86} One thaler is equal to \(1/3\textsuperscript{rd}\) of a mark.

\textsuperscript{87} Raiffeisen. \textit{The Credit Unions}, 69.
The Heddesdorf cooperative, like all early Raiffeisen cooperatives, operated with unlimited liability. All members were jointly liable for the full amount of the loans and obligations of the cooperative. A well-capitalized reserve fund was therefore critical to limiting the risk of membership by providing a guarantee against moderate losses. This was especially relevant for Heddesdorf because any member of the cooperative who had been a member for as short as three months and who had paid at least a quarter of their membership fee could be granted loans up to the maximum set by the board.\(^{88}\) But a conscious decision to allow the reserve fund to grow slowly may suggest that the cooperative was not overly concerned with loan losses arising because of a lack of informational asymmetries. So, because Heddesdorf had a great deal of information about borrowers and the status of its issued loans, membership was probably already considered safe, even with joint liability.

Nevertheless, the Heddesdorf cooperative did establish a number of other provisions to ensure a stable reserve fund. In addition to the membership fees, at least \(1/10\) of any profit accrued by the cooperative would be added to the capital reserves. Significantly, no dividends were to be paid to members until the fund totaled at least 200 thalers.\(^{89}\) Finally, because the allotment of dividends from any leftover profit was split between members based on the amount of their deposits, the cooperative built in an incentive to raise the amount of these contributions.\(^{90}\) As shown in *Figure 1*, the Heddesdorf reserve fund saw a rapid and steady

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\(^{89}\) Or approximately 67 marks.

\(^{90}\) In *The People’s Banks of Germany: Their Organization Under the Recent Law*, Herman Schulze-Delitzsch characterizes this incentive as “a most efficient spur to zeal” for raising the amount of these contributions, “because exactly the sharing in the dividends is regulated upon the amount paid in by individuals upon their respective business shares.”
growth in total amount, averaging an annual increase of just under 800 marks between 1868 and 1893.\textsuperscript{91}

**Deposits and the Sparkasse**

The Heddesdorf cooperative was also engaged in taking in deposits—from both members and nonmembers alike. Raiffeisen believed that providing a safe place for rural farmers to save would encourage thrift. He stated, “The tendency to save must be incited, and the opportunity must be offered to invest the money earned by diligent work, not only safely, but also so it is bearing interest...[we] must accept as interest-yielding deposits idle sums of money.”\textsuperscript{92} Raiffeisen’s focus on thrift suggests that other options for saving small amounts of money may have been scarce in rural Germany in the mid-nineteenth century. It is also likely that for some community members the transaction costs of traveling to a distant bank just to deposit limited savings outweighed any potential benefits they would accrue.

Aside from encouraging saving in general, the Heddesdorf cooperative opened a Sparkasse in order to attract more capital. The cooperative enticed members to give deposits, with a minimum of 20 thalers and a maximum of 100, into the credit union in order to receive 4.5 percent interest. Any additional deposits received a lower interest rate. In addition, members could use their deposits as credit contributions to the cooperative, with the opportunity to earn a 3.5 percent interest rate for savers.\textsuperscript{93} Because nonmembers were also able to make deposits in the savings bank, the cooperative greatly expanded the potential capital base that served as the basis for its loan business. Finally, all deposits required a six month withdrawal notice, which allowed

\textsuperscript{91} Between 1880 and 1890, the period for which data on the Reserve Fund is most complete, this trend continues, with the annual increase averaging 780 marks.

\textsuperscript{92} Raiffeisen., 71.

\textsuperscript{93} Raiffeisen Dokumente, *Die Protokollbücher des Heddesdorfer Darlehnskassen Vereins 1864-1899.*
the management committee to count on greater stability and information on the cooperative’s finances. Through the *Sparkasse* relatively safe, interest-bearing savings options with low payment levels were thus made available to the community.

*Figure 2* shows the deposit activity for the *Sparkasse* branch of the Heddesdorf cooperative. From 1877 until 1886, deposits almost tripled from 33618 marks to 85766 marks, an average increase of 5794 marks. This is followed by a plummeting of deposits back down to 32535 marks by the end of 1887. After declining to below 20000 marks in 1890, the last four years of data show an average rise of 4031 marks back to 35569 marks at the close of 1894. The data does not indicate what caused the two drastic reductions in deposits between 1886-1887 and 1888-1890 respectively. Nevertheless, the *Sparkasse* was obviously an important source of deposits for the Heddesdorf cooperative, and at no point in time did the *Sparkasse* deposits fall below the total amount of the reserve fund.

In general, the deposit and saving side of the Heddesdorf cooperative was successful in attracting new capital. *Figure 3* shows the growth of the cooperative’s total assets. From 1870 to 1896 assets grew from just over 2000 marks to over 100,000 marks! This astonishing growth may be attributable to an external event not captured by the data, as the cooperative’s assets grew many tens of thousands of marks just between 1876 and 1877. The reasons for this growth are unclear. It is possible the cooperative incorporated the neighboring cooperative ventures in Flammersveld and surrounding parishes and that this accounts for the growth. 

Large fluctuations aside, however, the Heddesdorf union still saw its assets grow steadily in the other years. Between 1870 and 1876, total deposits more than doubled from 2151 marks to 9628, increasing in all but one year. The average growth of deposits during this time was 738 marks per year. Between 1877 and 1896, the total amount of deposits held by the

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94 The reasons for this growth are unclear. It is possible the cooperative incorporated the neighboring cooperative ventures in Flammersveld and surrounding parishes and that this accounts for the growth.

95 Wolff., 148.
cooperative was more varied, and year-to-year fluctuations do not trend strongly in either direction. Total deposits, however, never went below 69,150 marks and averaged 89,321 marks, while the long-term trend indicates that deposits were increasing over time.

The later records of the Heddesdorf cooperative seem to indicate an increasing sophistication in cooperative practice. First, the cooperative began keeping much better records tracking more variables such as the value of member shares, dividend payments, cash holdings, interest owed, outstanding debt, and court costs. Perhaps more importantly, however, the improving records offer a glimpse at the more varied aspects of the cooperative’s actual operation. For example, the records hint at Heddesdorf’s inclusion into the Raiffeisen central organization. Beginning in 1879, occurring again in 1880, 1881, and appearing scattered in the records thereafter, the cooperative was a net lender to the Central, extending 5,000, 14,150, and 19,900 marks to the central respectively in each of these three years. At least for the limited data available, the Heddesdorf cooperative seems to have had a surplus of loanable assets which it was able to extend to the Central.

The picture of overall growth and the cooperative’s ability to loan surplus deposits provides strong evidence that the deposit side of the Heddesdorf business was thriving. This argument is strengthened by looking at the net assets of the cooperative. Figure 4 shows the growth of these net assets between 1870 and 1896. Net assets show strong positive growth over the long-term, despite dramatic year-to-year fluctuations. Furthermore, in only one of these years did the Heddesdorf liabilities exceed its assets, indicating that there was enough confidence in the cooperative’s business to attract sufficient capital to offset its loan activity.

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96 Or at least being owed that amount by the Central Savings and Loan Association.
Credit and Loans

Still, the main purpose of the Raiffeisen credit cooperatives was always to provide credit to their members, and the success of the Heddesdorf cooperative must be judged accordingly. As Figure 5 shows, the growth of the lending side of the Heddesdorf business follows a similar pattern to the deposit side. The total amount of loans extended grew from 2,151 marks in 1870 to over 87,000 by 1896. As with the deposit side, there is a radical increase in the amount of loans between 1876 and 1877, but again, except for this anomaly, the loans mimic the deposit pattern. The total loan amount shows a gradual increase between 1870 and 1876, increasing by 3,999 marks overall, a yearly average increase of 667 marks. Following 1876, the amount of loans extended by the cooperative closely follow the deposit pattern; in all but two of the subsequent years, when the total amount of deposits increased the total amount of loans also increased and vice versa.

Figure 6 plots assets and expenditures, or liabilities, together in order to show this relationship. Ultimately, the close trend between assets and liabilities indicates that the Heddesdorf cooperative was highly leveraged. This provides strong evidence for the first testable hypothesis, that cooperatives did not view asymmetric information as a serious issue. As Guinnane (2002) argues, “A conventional bank needs to maintain liquidity because it is one way to contend with the informational asymmetry between the bank’s managers and its depositors.” But because the Heddesdorf managers were also its depositors, the cooperative did not face this asymmetry to the same degree, and as a result “were able to have less liquid portfolios.”

The first asymmetric information hypothesis is strengthened by the distinction between the loans extended by the Heddesdorf cooperative and those given by both traditional banks and

97 Within this period, the highest annual amount of loans was 118650 marks, occurring as early as 1888.
urban credit cooperatives. First, most Heddesdorf loans were long-term, averaging 4.22 years.\textsuperscript{99} Table 1 shows the breakdown of the loans by the three major durations: three months and five and ten years respectively. Of the 785 loans for which I have data, 618 were given for a five year period. This represents 78.73\% of the Heddesdorf loans. There were also shorter three month credits available which were fairly common; 144 of the issued loans, or 18.34\% of all loan activity, were issued for a three month period. For larger loans, usually those associated with the purchase of land or homes, these loans could be extended to a maximum of ten years. Given the long average duration of loans (4.22 years) extended by the Heddesdorf cooperative and the relatively short withdrawal notice for deposits (6 months), this cooperative was borrowing short and lending long, which indicates confidence in eventual loan repayment.

Finally, both the asymmetric information argument and hypothesis five regarding low transaction costs are supported by the low interest rate spread of the Heddesdorf cooperative. The cooperative charged 5 percent interest on all loans, irrespective of loan duration or amount. The low spread of 0.5 to 1.5 percent between the interest the cooperative charged borrowers (5\%) and the interest earned by savers (3.5-4.5\% for Sparkasse deposits) would only have been possible because of low transaction costs and low risk. And the fact that these low interest rates were accepted by depositors indicates that these deposits were viewed as very safe, providing a further argument that the cooperative had good information over repayment probabilities. Finally, the low spread may also reflect the cooperatives’ underlying philosophic principles in the sense that members were not concerned primarily with individual profit, but in helping one another achieve economic prosperity.

\textsuperscript{99} According to Wolff, the Schulze-Delitzsch cooperatives generally extended loans only for three month periods.
As might be expected, the longer the loan term the larger the loan amount tended to be. Figures 7 and 8 summarize the key statistics of the loan data by duration. Three month loans were issued for an average of 91 marks; five year loans were more than twice as large, averaging 184 marks; and the rare ten year loans averaged nearly 587 marks. Overall, the mean loan amount was 172.75 marks. Borrowers whose loans were coming due could petition the cooperative to have their loan extended for three months. This process appears to have been relatively simple; 242 loans, or 31 percent, were granted one of these short-term extensions. As shown in Table 1, the Heddesdorf cooperative only earned between an average of 4.55 and 29.35 marks in interest depending on the length of the loan. Together, the small average loan amount, the high amount of loans that were granted extensions, and the low amount of interest earned per loan would only have been profitable with low transaction costs, providing strong support for hypothesis five.

All loans extended by the Heddesdorf cooperative also required an upfront payment. For 10 year loans, this payment was 5 percent of the total, whereas for loans of five or less years the required payment was only 3.33 percent. Insisting upon an upfront payment helped ensure that members were taking loans for productive purposes. The cooperative also mandated that borrowers repay their loans in equal annual installments. Raiffeisen believed that this method of repayment led “people to thrift more effectively than the obligation to pay in business shares.” Requiring annual payment could also work as a check to ensure that members were on track to repay their loan by its due date, giving the cooperative addition information on the status of each of its loans.

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100 In lieu of this percentage payment, debtors could opt to pay a certain amount per thaler borrowed. This amount differed depending on the length of the loan. Ten year loans required 1 gr 6 PF payment per thaler, five year loans required 1 sgr per thaler, and loans of a year or less required 1 pf per thaler.

101 Raiffeisen, 50.
Perhaps one of the most significant differences between Raiffeisen credit cooperatives and other financial institutions is that they did not require collateral. Instead, the cooperative relied on cosigners to guarantee the loan. In the event of default, these cosigners were responsible for the total amount of the loan. The Heddesdorf statutes indicate that a cosigner was a member who was considered safe and acceptable provided he or she held real estate of a value “at least twice the amount of the loan to be guaranteed.” Only ten year loans required the provision of additional collateral. Given the small size of most cooperative loans, this meant that most members were able to serve as a cosigner. And the use of cosigners in lieu of more traditional and secure forms of collateral likely indicates that the cooperative must have had a great deal of information about each potential cosigner. Despite the personal risk, an astonishing 167 of the 250 different debtors in our data set served as a cosigner. This means that over sixty-five percent of the Heddesdorf members taking out a loan were willing to pledge their assets to secure the loans of fellow members.

Essentially, the relationships between members of the Heddesdorf cooperative meant they often acted as debtors, lenders, and cosigners all at the same time. This level of involvement was a vital reason why cooperatives limited the information problems associated with acting as a delegated monitor, directly supporting hypothesis one. And because a cosigner was directly liable for the loan in the event of default, they also had every incentive to monitor that the loan was used productively and that the debtor was on track for repayment. The presence of cosigners who screened individual borrowers and acted as a delegated monitor through the life of a loan, supports hypothesis three, regarding efficient monitoring mechanisms. Ultimately, both hypothesis one and three are supported by the fact that the Heddesdorf cooperative appears to

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102 Raiffeisen Dokumente, Die Protokollbücher des Heddesdorfer Darlehnskassen Vereins 1864-1899.
have “dispensed with many of the contractual terms that other lenders used to compensate for
less-than-adequate information and enforcement capabilities” in lieu of cosigners.103

Finally, the willingness of members to act as cosigners may also reflect the close ties, or
dense social relationships, which often bound members of the Heddesdorf cooperative.
Friendships, business relationships, or family ties among the Heddesdorf members appear to
have been common. Of the 130 debtors that took out multiple loans for example, 60 of them (46
percent) had the same cosigner for at least two loans. This is significant for two reasons. First,
over half (52 percent) of members seeking to borrow money from the cooperative did so on more
than one occasion, and second, many of them relied on the same cosigners to secure each
additional loan. This provides strong support for hypothesis two, that repeated interactions
provided an incentive for loan repayment and curtailed shortsighted behavior such as loan
default in favor of mutually beneficial actions such as repayment.

The Heddesdorf cooperative also made use of extensive family ties. An astonishing 13.07
percent of all loans issued to debtors (103 loans) were secured by a cosigner with the same
surname. Even though this percentage is somewhat inflated by certain families engaging in
repeated transactions with one another, the sheer number of these transactions remains
noteworthy. In addition to supporting hypothesis two about lower monitoring costs, the obvious
relationship between many borrowers and cosigners likely did create strong social pressure to
repay one’s loans. The evidence for the third hypothesis becomes even more powerful when
combined with the repeat transactions between many borrowers and their cosigners. Thus the
interplay between the long-term interaction view, where repeated interactions sustains the
cooperative, and arguments for effective repayment mechanisms based on social mechanisms, is
clearly demonstrated by the Heddesdorf data.

The impact of social relationships can also be found in the presence of cosigners who did not take out a loan. For Heddesdorf, 50 unique cosigners did not take out a loan in the period in question. Unfortunately, the data does not allow analysis of cooperative members who neither took loans nor served as a cosigner, but these are likely to have been numerous.\textsuperscript{104} This limited data does indicate that the Heddesdorf cooperative had nonborrowing members, however, thereby providing limited support for Guinnane’s assertion that these members served a vital role in monitoring the provision and use of loans while simultaneously preventing collusion and minimizing asymmetric information between the borrower and the cooperative.

**Conclusion**

Ultimately, the business records of the Heddesdorf cooperative provide strong, albeit primarily descriptive, support for each of the five hypotheses advanced previously. It appears that the Heddesdorf cooperative did indeed have an efficiency advantage over traditional financial institutions as a result of its ability to (1) minimize informational asymmetries and (2) create effective monitoring and repayment mechanisms, all while (3) lowering transaction costs. The result, according to Timothy Guinnane, was that cooperatives were able to “provide loans on terms that were impossible for conventional banks.”\textsuperscript{105} And according to Guinnane, the resulting increase in access to credit for many rural Germans allowed them to “adopt the new methods and materials required to use best-practice techniques in their branch of agriculture, commerce, or

\textsuperscript{104} Unfortunately, the business records do not have a list of the cooperatives’ members which would have allowed us to calculate the number of non-borrowing members. Recall Guinnane’s (2001) argument that these members served a valuable monitoring purpose.

\textsuperscript{105} Guinnane, Cooperatives as Information Machines, 387.
small-scale industrial production,” creating new opportunities and leading, in general, to an increase in incomes.\textsuperscript{106}

As well as utilizing strong social capital mechanisms to their benefit, cooperatives created supra-institutions such as Centrals and auditing associations to overcome the liquidity and confidence problems inherent in any small, regional microfinance initiative. By mitigating financial risks associated with small and geographically restricted loans, Centrals were instrumental in attracting deposits while auditing associations provided valuable training and oversight. Together, the two “overcame the limitations inherent in the design of any individual credit cooperative,” allowing cooperatives to “capitalize on the benefits of their small size and local basis while overcoming…the potential weaknesses implicit in those features.”\textsuperscript{107} Overall, cooperatives’ local efficiency advantages and their use of regional institutions inspired widespread confidence in their operation. As a result, credit cooperatives have become an increasingly important part of many of today’s financial systems.

The presence of well-run cooperatives has the potential to leave a positive mark on the economic and social structure of a given region through the development of “local initiative and local economic strength.”\textsuperscript{108} Throughout this research, it has been our purpose to better understand what allowed German credit cooperatives to flourish, in part, because their success may reveal lessons for today’s microcredit efforts. The first lesson we can draw from their development is that successful cooperative efforts depend on an intimate understanding of local context. The Raiffeisen credit cooperatives, for example, developed within a “broader pattern of material, institutional, legal, and intellectual changes” that swept through Germany in the

\textsuperscript{106}Ibid., 387.
\textsuperscript{107}Guinnane, “Regional organizations,” 271-2.
\textsuperscript{108}Dr. Paul Armbruster. “The Role and Importance of Savings and Credit Cooperative in Microfinancing and the Worldwide Activities of the German Cooperatives and Raiffeisen Confederation.” A paper prepared for the DGRV (German Cooperative and Raiffeisen Confederation) in February 2005.
decades following the 1848 revolution.\textsuperscript{109} Only by establishing common operating principles and adapting to a constantly changing political and legislative climate did the Raiffeisen movement successfully achieve its economic goals. All microfinance institutions, and especially those reliant on cooperation or social mechanisms, should therefore have a firm grasp of the specific sociopolitical context in which they intend to operate.

The particular way in which the Raiffeisen cooperative structure and business operations allowed it to achieve its efficiency advantages is also potentially important for designing future microcredit institutions. But because I have already focused on these structural features in testing the five efficiency hypotheses, I will not return to them here. Instead, I want to focus on an obvious but underappreciated lesson for the success of all microfinance efforts, which stems from the interaction of each of the five hypotheses with one another. This lesson is, simply, the importance of the individual relationships and social networks upon which the Raiffeisen cooperatives were built in determining its financial success.

It was only by taking advantage of existing social structures that Raiffeisen cooperatives were able to realize their potential efficiency advantages, thereby extending credit to sectors of society that traditional financial organizations were either unable or unwilling to lend money too. Understanding and adapting to the specific economic needs of its local community also allowed the Heddesdorf cooperative to create a network in which each member’s self-interest was tied to the success of the broader cooperative. More than any other factor, it may be the mutual self-interest of members, “who were both well-informed and interested” in the cooperatives’ future,

\textsuperscript{109} Blackbourn and Eley., 288. Fairbairn., Ecological Perspective, 1217. According to Fairbairn the “inclusive and creative process” through which cooperatives reached decisions not only underscores the democratic nature of cooperative institutions, but reveals “the context, new ideas, and wide sense of commitment” on which such a community endeavor depends. In The Nature of Cooperation, Craig cites W.P. Watkins, a cooperative historian, in establishing what these new ideas consisted of. According to Watkins they were: solidarity; economy; equity; democracy; liberty; mutual responsibility; and education, p. 44.
which created the information and enforcement advantages that led to cooperatives’ success over
the long-term.\textsuperscript{110} While most modern microfinance efforts are not mutual organizations, they
nonetheless stand to benefit from incorporating many of the lessons of Germany’s credit
cooperatives for harnessing social capital and developing the appropriate incentives for ‘good’
behavior among members.

Figure 1: The Reserve Fund
Total capitalization (in marks):

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<th>YEAR</th>
<th>Reserve Fund</th>
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<tbody>
<tr>
<td>1868</td>
<td>255</td>
</tr>
<tr>
<td>1874</td>
<td>634</td>
</tr>
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<td>14066</td>
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<tr>
<td>1899</td>
<td>17431</td>
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</table>

Figure 2: Sparkasse Deposits

Figure 3: Total Deposits for all Heddesdorf Activity
Figure 4: Net Assets (Deposits – Liabilities)
Figure 5: Heddesdorf Loan Activity (Liabilities or Expenditures)

![Graph showing actual expenditures over years.]

Figure 6: Heddesdorf Assets versus Liabilities

![Graph showing actual expenditures and assets over years.]

Figure 7: Loan Characteristics
Summary Table (1): Loan characteristics by duration

<table>
<thead>
<tr>
<th>Loan Duration</th>
<th># of Loans</th>
<th>% of Total Loans</th>
<th>Average Amount</th>
<th>Interest Rate Charged</th>
<th>Average Cumulative Interest Earned</th>
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<tr>
<td>3 Months</td>
<td>144</td>
<td>18.34%</td>
<td>91 marks</td>
<td>5%</td>
<td>4.55 marks</td>
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<td>5 Years</td>
<td>618</td>
<td>78.73%</td>
<td>184 marks</td>
<td>5%</td>
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</tr>
<tr>
<td>10 Years</td>
<td>13</td>
<td>1.66%</td>
<td>587 marks</td>
<td>5%</td>
<td>29.35 marks</td>
</tr>
</tbody>
</table>

Armbbruster, Paul. “The Role and Importance of Savings and Credit Cooperative in Microfinancing and the Worldwide Activities of the German Cooperatives and Raiffeisen Confederation.” A paper prepared for the DGRV (German Cooperative and Raiffeisen Confederation) in February 2005.


