

Regional Banks for Micro-credit Institutions: ‘Centrals’ in
the German Cooperative System before the First World War

TIMOTHY W. GUINNANE

Department of Economics
Yale University
Timothy.Guinnane@Yale.Edu

December 2004

Preliminary. This paper is part of a larger project; for related discussion see the references and my co-authored papers with Ghatak and with Banerjee and Besley. For comments and suggestions I thank William English and the Yale development lunch. For financial support I thank the National Science Foundation, the *Deutsche Akademischer Austauschdienst*, the German Marshall Fund of the United States, and the WGZ-Bank (Düsseldorf). The *Bundesverband der Deutschen Volksbanken und Raiffeisenbanken - BVR*, the individual Raiffeisenbanks, and the WGZ-Bank provided access to their historical records. Agnes Meier of the WGZ-Bank and Hildegard Flieger of the Bundesverband’s library went far beyond the call of duty to make documents available to me. Sylvia Reimers provided excellent research assistance.

Abstract

In the nineteenth century, Germany's thriving rural credit cooperatives were small, local institutions. Two policies of the rural credit cooperatives posed serious apparent threats to their health: they restricted their operations to a small geographic area, and they deliberately made long-term loans that were funded by short-term deposits. The first policy was intended to capitalize on local information about borrowers and their projects, and the second was thought necessary to make credit useful in a rural economy. To address the lack of diversification and the liquidity problems inherent in these policies, cooperative leaders created a set of "Central banks," regional institutions that were owned and controlled by their member cooperatives, and which acted as a bank for their members. Cooperative leaders described the Centrals as providing "money equalization" (*Geldausgleich*), which can be understood in several different ways. Critics of the rural cooperatives thought the Centrals' only purpose was to provide a conduit for state aid. This paper uses primary source material, published reports, and contemporary discussions to consider what the Centrals actually did. State aid played a only a small role in the Centrals' development. The Centrals doubtless contributed to the success of the system, although by locking up capital in the rural sector they might have reduced the pace of Germany's structural transformation.

The rural German credit cooperatives that thrived in the second half of the nineteenth century did so by capitalizing on the dense information and strong ties among households in small, stable rural communities.¹ They also provided a type of credit their members thought especially desirable, long-term (often 10-20 years) loans at fixed interest rates. The rural credit cooperatives funded those loans from local deposits, which meant they provided another valuable financial service and at the same time had an even larger group of local people with an interest in the institution's success. But this successful design had its cost: by limiting their operations to a small area, the cooperatives ensured that their borrowers and depositors all had similar economic fortunes. And their deposits, although not always demand deposits, had a much shorter term than their loan portfolios. As a result, the credit cooperatives were badly diversified and illiquid, and could face mismatches of local credit demand and supply that reasonable interest rates did not equate.²

Cooperative leaders recognized these issues early on in the movement's history, and as early as the 1850s were experimenting with forms of "money equalization" (*Geldausgleich*) that could alleviate some of the problems in the cooperative's local design. The largest part of the cooperative movement eventually created a set of institutions called "Central banks" (*Centralkassen*) that functioned as regional banks for cooperatives of all types – credit, creameries, purchasing and marketing, etc.³ The urban and the rural branches of the cooperative movement disagreed on this issue as on so many others, and eventually the Centrals became part of a larger dispute between the branches of the cooperative movement.

¹ Guinnane (2001) makes this argument using manuscript sources for several of the local credit cooperatives.

² The small, local design entailed another problem, which was reliance on untrained, part-time managers. Guinnane (2003a) details the auditing associations that were created to provide external auditing and some training for local managers.

³ German spelling at this time was in flux; some Centrals were already switching to "Z" (as in *Zentralkasse*) and "K" (as in "*Köln*"). References here respect the spelling in the original.

This paper tries to unpack just what the Centrals did. There are many ways to understand the idea of “*Ausgleich*.” No contemporary publication that I am aware of really spells it out, and some of what is reported here is either inconsistent with the way Centrals were portrayed at the time, or points to a function that was so clearly-understood that it did not warrant contemporary comment. Understanding how the Centrals functioned points to both strengths and weaknesses of the cooperative system.

The first section provides more background on the cooperative system and discusses the sources used here. Some major manuscript sources mentioned here have not yet been fully exploited, and they might hold the key to disentangling some of the puzzles noted below. The second section describes the operation of the Centrals. Section three shows that a major criticism has little basis: the Centrals did not rely for their existence and performance on state assistance funneled through a Prussian state bank. Section four considers how the Centrals responded to shocks to the economy of the regions in which they were located. Although preliminary, this analysis suggests that the Centrals’ role in providing liquidity in times of stress was not a major feature of their operations. Section five discusses what the Centrals really did.

1. Centrals in the cooperative movement

Discussions from the early twentieth century portrayed the German cooperative system as having three tiers. The lowest tier consisted of the local cooperatives, the middle tier was the Centrals (and the auditing associations discussed in Guinnane (2003a)), and the top tier was the Prussian State Cooperative Bank (or *Preussenkasse*). Most of the local cooperatives were credit cooperatives, but in addition there were a number of other cooperatives, including creameries, wineries, and cooperatives for purchasing and marketing.

The cooperative movement grew out of concrete efforts to assist the poor and working classes, following the failed revolutions of 1848/49. Hermann Schulze-Delitzsch (1808-1883) founded several cooperative associations during the 1840s and 1850s. Friedrich Raiffeisen (1818-

1888) was at first an imitator of Schulze-Delitzsch, forming his first credit cooperative in 1864. Most Schulze-Delitzsch cooperatives were predominantly urban, while Raiffeisen worked in rural areas. The number of Raiffeisen cooperatives at first grew rapidly, but was later eclipsed by cooperatives affiliated with a group formed by Wilhelm Haas in the 1870s. Credit cooperatives were not the only cooperatives included in this movement. Schulze-Delitzsch's organization included cooperatives for the purchasing of raw materials, and a few consumer and producer cooperatives. Raiffeisen's credit cooperatives also engaged in purchasing agricultural inputs and marketing agricultural products. The Haas rural cooperative group included many distinct creamery, purchasing, and marketing cooperatives. Schulze-Delitzsch's cooperatives grew in number until the 1880s, after which they became larger (in terms of members and liabilities) but not more numerous. The rural cooperatives, on the other hand, did not experience significant growth in numbers until the late 1870s, and their period of most rapid growth was after 1890.

Local credit cooperatives shared internal organizational features regardless of their type, in part because of legal requirements. Guinnane (2001 and 2003a) outline their internal structure and operations. All were governed by their membership, which selected two committees to run the cooperative's operations: a management committee (*Vorstand*) that met monthly and made decisions about credit, membership, and dealings with the Central, and a supervision committee (*Aufsichtsrat*; sometimes *Verwaltungsrat*) that met less often and acted as a sort of internal auditor. The main difference between urban and rural cooperatives was that the former tended to be much larger and have paid staff. Two additional disagreements relate to the rise of the Centrals.

In Schulze-Delitzsch's view, the Centrals were intended to solve a problem that the rural cooperatives only had because of other, unwise policies. His proudest claim was that his credit cooperatives were a sort of bank for the middle classes (*Mittelstand*), and he stressed adherence to banking orthodoxy. Schulze-Delitzsch argued that credit cooperatives should make only short-term loans, usually 90 days or less. Discounting bills was a major form of lending for his

cooperatives. Rural cooperatives, on the other hand, tended to make long-term loans (often 10 years or more). In his defense of the Raiffeisen-style cooperatives Kraus (1876, p.4) argued that when agriculturalists needed credit, they needed it for longer times than the urban workers and small businessmen typical in Schulze-Delitzsch cooperatives.⁴ The rural cooperatives also tended to have nominal or at least small shares, meaning that they relied on deposits. In this respect, too, Schulze-Delitzsch thought the rural cooperative practice was simply unwise. In both respects – the concern about liquidity, and the preference for less leverage – Schulze-Delitzsch was just stressing contemporary banking orthodoxy.

Liquidity was a major issue in banking during the late nineteenth century. Schulze-Delitzsch (1875), in which he lays out his reservations about Raiffeisen's cooperatives, stresses the liquidity issue. Eichhorn (1910)'s study of Schulze-Delitzsch cooperatives concludes that even they *were* not sufficiently attentive to the problem. But his criterion seems to be their liquidity compared to major banks. He does not consider whether a credit cooperative *should* be as liquid as a bank. The liquidity of Raiffeisen's cooperatives was a major complaint leading to the semi-official Enquete (1875). In 1910 the Reichsbank issued a report on the liquidity of German credit cooperatives overall. The Reichsbank concluded that only 14.3 percent of the assets of Haas credit cooperatives were easily liquidated, compared to 31.3 percent for Schulze-Delitzsch credit cooperatives. But it noted the role of the Centrals: in some sense, whatever the Central could lend in an emergency had to count as "liquid assets" for the local cooperatives.⁵

Disagreements over Centrals were the source of some of the most bitter controversy between Schulze-Delitzsch and Raiffeisen. Early on leaders of individual cooperatives talked about the need for financial *Ausgleich* among cooperatives. Schulze-Delitzsch was at first skeptical of Centrals as a solution to the problem. He noted, reasonably, that Centrals were not an

⁴ Loans from rural cooperatives usually had a 90-day recall provision. The sources studied in Guinnane (2001) suggest this recall was extremely rare, usually associated with problems in the *loan* rather than the cooperative's illiquidity. This fact may reflect the success of the Centrals in providing liquidity to cooperatives.

⁵ The report is quoted in *Deutsche Landwirtschaftliche Genossenschaftspresse*, a publication of the Haas group (37(10), 30 May 1910, pp.208-209).

obvious solution to the problems faced by cooperatives. Cooperatives within any region were likely to have similar credit needs, so a Central would have to cover a large territory and become large to succeed in matching cooperatives with excess funds to those that needed funds (Schulze-Delitzsch 1897, p.53). A regional Central would not meet the need. And who would control a national Central? Schulze-Delitzsch was less willing to acknowledge that Centrals were a solution to problems faced more severely by *rural* cooperatives. His cooperatives, being larger and having a membership that represented a greater mix of occupations, already took advantage of some of the diversification available at the local level. One might also think that with fewer agricultural members they would experience less seasonality.

Schulze-Delitzsch's critique of Raiffeisen's first central was at some level a legal argument. Raiffeisen first tried making local cooperatives members of a regional Central that was itself a cooperative with unlimited liability. As Schulze-Delitzsch noted, this structure potentially made each member of a local cooperative liable for all the debts of a very large institution. Further developments in Centrals were tied to a change in the laws regarding cooperatives. The cooperatives had long lacked special legislation enabling them to act as business enterprises. This situation was partially remedied in 1868 for cooperatives in the North German Confederation (Prussia plus some other, smaller north German states). The first Reich law on cooperatives was passed in 1889. The 1889 made limited liability for cooperatives legal for the first time. At the local level, many Schulze-Delitzsch cooperatives took advantage of the legal change to adopt limited liability. This development also allowed Centrals to be formed as *limited* liability cooperatives and to admit as members *unlimited* liability cooperatives. This provision overcame Schulze-Delitzsch's worries about Raiffeisen's first central (although Schulze-Delitzsch did not live to see the law enacted). After 1889 virtually all new Centrals were formed on this basis, and some of the older ones re-organized themselves as limited-liability cooperatives. The 1889 law also marked the beginning of the so-called "Centrals movement," a period that saw the formation of many more Centrals, usually as limited-liability cooperatives.

Centrals for Centrals

For several years the Haas Centrals all remained separate regional entities, and there was no all-German bank uniting them as there was for the Raiffeisen group. In 1895, however, the Prussian government chartered a bank that was intended to parallel the Reichsbank and to serve the needs of cooperatives within Prussia. The Prussian Cooperative Central Bank (usually called the *Preussenkasse*) remained a governmental body, run by Prussian bureaucrats and directed by royal appointees. (An advisory body included leaders of the cooperative movement, but they had no managerial power.) The original capital was all subscribed by the Prussian government, and although cooperatives and their Centrals were permitted to purchase additional shares, few did. The *Preussenkasse* played several roles. A Central could use the *Preussenkasse* as its Central, borrowing when needed and depositing excess funds at other times. Some credit cooperatives dealt directly with the *Preussenkasse*. The *Preussenkasse* survives to this day in the present-day DZ Bank.⁶

The *Preussenkasse* was a controversial institution.⁷ Through its capitalization the new bank enjoyed a contribution from the Prussian government. Those opposed to State assistance to cooperatives saw in the *Preussenkasse* the state involvement Schulze-Delitzsch had feared. The bank's status as a Prussian rather than German institution also involved some awkwardness, since Prussia was only about 60 percent of German territory, and the cooperative movement was especially strong in some non-Prussia areas such as Saxony. Another all-German cooperative bank, the *Landwirtschaftliche Reichsgenossenschaftsbank* was formed in 1902 as a cooperative with limited liability. This institution was a product of a struggle between the *Preussenkasse* and the Haas organization over the former's high-handed methods of dealing with Centrals. Some

⁶ The Deutsche Genossenschaftsbank, which was the lineal descendant of the *Preussenkasse*, merged with the SGZ Bank in 2001.

⁷ Hillringhaus (1922), written by a bank official, is a polemical work. Jost (1913) is a dispassionate discussion of the Centrals and the *Preussenkasse*

viewed the new bank as a direct competitor for the *Preussenkasse*, while others saw it as another intermediary. Some Centrals would deal directly only with the *Landwirtschaftliche Reichsgenossenschaftsbank*, which would in turn avail itself of the *Preussenkasse*'s credit when needed. In the event neither role was very practical, and the Haas "Head Central" dealt primarily with Centrals outside of Prussia.

Sources

The urban credit cooperative system pioneered by Schulze-Delitzsch never approved of the Centrals system, so this paper focuses on rural institutions. We have three types of sources. The various cooperative federations published balance-sheet information for their member centrals, and sometimes for other centrals. Below I use evidence of this type taken from the annual reports of the Haas federation for the years 1895-1914.⁸ The Haas federation was the largest rural cooperative organization, comprising some 80 percent of rural cooperatives in Germany by 1914.⁹ This publication includes some other information, including the total monthly cash flows between cooperatives and each member Central for the period 1895-1914. The publication also includes some cursory balance-sheet information for a number of rural Centrals that were not part of the Haas group. Throughout we will refer to these as the "Haas Centrals."

A second source is the business records of individual Centrals. None of the member institutions of the cooperative system faced any requirement that would land their records in a public archive. As a result, the availability of archival material on the cooperatives is haphazard, and depends very much on institutions having some particular interest in preserving the material. The WGZ-Bank's archive has information from a number of Centrals. Most usefully, it holds business records for two individual institutions, the *Ländliche Zentralkasse eGmbH* (Münster)

⁸ The Raiffeisen group was at the time much smaller than the Haas federation. Raiffeisen's group had a single all-German central institution, with branches. It published far less information than did the Haas group.

⁹ The Haas group changed its name several times during the relevant period. At the end of our period, in 1914, the group was the *Reichsverband der deutschen landwirtschaftlichen Genossenschaften*. The statistics used here come from its annual yearbook.

and the *Rheinische Bauern-Genossenschaftskasse eGmbH* (Köln).¹⁰ Included among the WGZ-Bank's holdings for these two centrals are minutes of the meetings of the management organs and some material pertaining to their dealings with member cooperatives. Unfortunately the WGZ-Bank's holdings only pertain to Centrals that were eventually fused into the WGZ-Bank.

2. How the Centrals worked

Figure 1 and Table 1 present basic information on German money markets and the Centrals in the period 1895-1914. Figure 1 reports the Reichsbank's Lombard rate, the loan rates for the *Preussenkasse*, the discount rate on the Berlin money market, and the deposit and interest rates in effect at the *Bauernkasse*.¹¹ In 1897 the *Preussenkasse* adopted a formal policy of tying its Lombard rate to that of the Reichsbank. The figure shows that the *Bauernkasse* was responsive to changes in money-market rates, although it did not have to match all money-market changes one-for one. This partial isolation from the money market is discussed below.

Table 1 summarizes some basic features of the Haas Centrals for which we have fairly complete data for the period 1895-1914. The data in Table 1 refer to the end of the reporting year 1911, which is the last year with complete information on all Centrals. (The full dataset goes through 1914, with some missing information in the last three years for two Centrals). By this time all of these institutions were limited-liability cooperatives (eGmbH). Some that were formed prior to 1889, when limited-liability cooperatives were first allowed, had first been formed as joint-stock corporations (*Aktiengesellschaft*) or a special type of limited partnership (*Kommanditgesellschaft auf Aktien*) but had re-organized later.

The Centrals, it should be noted, were small by the standards of German banks; the largest, in Munich, had about 42.8 million Marks in assets. The Deutsche Bank, Germany's

¹⁰ The "eGmbH" means the institution is a registered cooperative with limited liability. The *Bauernkasse* was formed in 1892 under a slightly different name and with its headquarters in Kempen. In 1901 it moved to Cologne and changed its name.

¹¹ The Lombard rate is the rate at which a financial institution could rediscount bills at the Reichsbank. The deposit and loan rates shown for the *Bauernkasse* are those for ordinary deposits and fixed-term loans.

largest for-profit bank at the time, had more than 1.8 billion Marks in assets a few years earlier, in 1907.¹² The average joint-stock credit bank in Germany in 1911 had assets of about 100 million Marks.¹³

Like other cooperatives, Centrals had two different management committees, a supervisory board and an executive board. They were unlike other rural cooperatives in that they had full-time paid staff; in addition to a treasurer, they had clerks and other personnel. The *Bauernkasse*, for example, had, in addition to its managers, two cashiers, six book-keepers, and other office personnel (Kerp 1913, p. 30). The management committees were selected and major policy decisions made by the membership as a whole at an annual meeting. As Table 1 shows, most members were cooperatives, and with one exception, most of the cooperatives were credit cooperatives.

At a technical level the Centrals were not much more complex than their member cooperatives. They had office space and more equipment, but in other respects were very simple operations. Some Centrals were at the outset “book” Centrals, meaning that they did not actually hold cash in their own vaults. All of their cash was kept in another financial institution, usually the *Preussenkasse*, and deposits at or loans from this Central were actually paid directly from the other institution. The Centrals’ simplicity reflects the narrow range of their services. Most assets were loans to cooperatives. Other assets included deposits at another bank, or state bonds. Most liabilities were deposits from members, or loans from other financial institutions. The more sophisticated Centrals acted as drawee for checks written by their members, but even in their capacity as agents for the purchase or sale of government bonds, they worked through the *Preussenkasse*. Most Centrals had costs that reflected their simplicity. The average annual cost of salaries and other (non-interest) costs for the Haas Centrals in our period was equal about .35 percent of the Central’s assets. For many centrals costs were even lower; those whose

¹² National Monetary Commission, p.392, *Banking and Currency Systems*.

¹³ Deutsche Bundesbank 1976, Table D.I-1.01. For more on the wider German banking system in this period, see Guinnane (2003b).

membership was primarily credit cooperatives, and newer Centrals that provided a narrower range of services, often had annual costs as low as .2 percent of assets.

Most Centrals distinguished two different lines of credit for their members. One was available virtually without question, and was proportional to the number of shares the cooperative owned in the Central. Another was available to cooperatives with some special need. The “special need” did not have to be a crisis. Cooperatives with heavy capital-investment needs, such as creameries or wineries, needed to borrow more than credit cooperatives. Both the *Ländliche Centrkasse* and the *Bauernkasse*'s records contain frequent notations that the management committee recommended, and the supervision committee approved, an increase in a cooperative's credit limits. On 21 December 1912, for example, the *Bauernkasse*'s supervision committee approved credit increases for 21 member cooperatives. In many cases these were relatively small increases to a small original credit limit. But others were large; the Ahrweil winery (*Winzerverein*) was granted an increase to 140,000 Marks for its normal credit, and a 10,000 Mark additional line it could tap if need be.¹⁴ The *Ländliche Centrkasse*'s records often contain notations that a member cooperative's full wishes were not granted – they received, for example, 30,000 Marks in additional credit, but not the 40,000 they asked for – but contain no hints that this was a difficult matter for the Central. Most Centrals, including these two, fixed the maximum credit to a single unlimited-liability cooperative using a formula that took into account the number of members and the total tax liability of the membership, a proxy for their wealth. For limited-liability cooperatives the formula was a simple fraction of the total liability attached to all shares in the cooperative.

Centrals offered two different types of loans. One was fixed in amount and duration, and usually repaid on an amortization schedule. Nearly every member cooperative had, on the other hand, a current account (*laufende Rechnung*) on which it was paid interest for positive balances and charged interest for negative balances. Most accounts of Centrals stress the current accounts

¹⁴ WGZ 8-10. The minutes of the management committee for this Central are unfortunately missing.

as the more useful to the member cooperatives. Centrals usually offered fix-term deposit accounts as well, and paid higher interest rates on them than they did on the positive side of the current accounts. Centrals could accept deposits from anyone, member or not. Some accounts were demand deposits, some had a specific notice requirement (six months, for example), or some mixture of the two. Others bought from the Central a debenture that would be similar to a certificate of deposit today.

The rules governing the membership and operations of the Centrals were generally brief and simple. One important and often detailed stipulation was that of exclusivity (*Ausschliesslichkeit*) in business dealings. Cooperatives that belonged to a Central had to agree to have absolutely no other financial business with any entity other than their own members. This exclusivity was two-sided, and contemporary discussions, as well as Central rules, stressed both sides equally. Members could not lend to other institutions, could not borrow from other individuals or institutions, and any securities or other investments had to be arranged by their Central. Kerp (1913, p.36) explains this requirement for the *Bauernkasse* at some length. The basic requirement is that members send their excess money only to the Central, and that they obtain credit only from the Central. Cooperatives were forbidden to lend directly to one another, even when they were located in the same place. The rules forbade dealings with banks “without the knowledge and approval” of the Central, and specifically forbade cooperatives from discounting their notes at banks. The *Preussenkasse* had similar rules governing its relations with Centrals (Hillringhaus 1922, pp.40-43).

Centrals themselves often borrowed from and lent to other financial institutions. They usually had accounts at clearing institutions such as the Reichsbank and the Post Office’s giro facility, but their most important relationship after 1895 was with the *Preussenkasse*. Centrals

also bought government bonds and debentures issued by government-back banks (such as *Sparkassen*) as investments.¹⁵

The Centrals had no formal relationship with the cooperative auditing associations, but in practice there was often a great deal of overlap and close cooperation. The auditing associations had the right to fulfill the biennial audits required by the 1889 act. They audited the Central just as they did the local cooperatives, and most Centrals required a report from the auditing association before extending more credit to a member.¹⁶ Thus the auditing association in effect provided information to the Central, and the Central's control over credit functioned as a stick the auditing association could use in dealing with underperforming local cooperatives. The auditing association's only other sanction was to eject the cooperative from its association, a drastic remedy usually fatal to the cooperative.¹⁷ Supervisory boards for Centrals often shared individuals with that for the auditing association, meaning that it was simple for the two institutions to coordinate policy.

3. The role of the *Preussenkasse*

Schulze-Delitzsch's followers often claimed that the only point of Centrals was to qualify for credit from the *Preussenkasse*. They viewed the Centrals movement in the rural cooperative movement with alarm, as a facet of "state help" rather than "self help" that could undermine the entire basis of cooperation. The *Preussenkasse* normally dealt directly only with Centrals, which led to the charge that Centrals were established only so the local cooperatives could indirectly obtain credit from the Prussian institution. This claim, in fact, became the most prominent feature of the criticisms lodged from this quarter at the end of the 19th and beginning of the 20th centuries.

¹⁵ The *Bauernkasse* also had very large deposits at the Reichsbank in some years. I have yet to learn how Centrals might be tied to the Reichsbank.

¹⁶ The rules of the *Rheinische Genossenschaftsbank* (Köln) state that any member can request a special credit line, but that such credit is given only after examining the latest audit, and that the Central can, if it wishes, request a special audit before making a decision (§23). This Central was short-lived and left very little material other than its printed statutes.

¹⁷ Guinnane (2003a) notes that in some cases the local cooperatives did not appreciate the auditor's advice.

Hans Crüger, who succeeded Schulze-Delitzsch as leader of the urban cooperative federation, made this claim repeatedly in articles in the cooperative press, and in pamphlets, books, and journal articles. Crüger (1913, p. 25), for example, says that “the development of Centrals is a product of state assistance.” The claim has also made its way into some of the little academic historical writing on the cooperatives. Fairbain (1994), for example, exaggerates the importance of the *Preussenkasse* to the success of the cooperative movement, probably echoing Crüger.

Purists could object to the *Preussenkasse*, but the implication that the Centrals were dependent on it is hard to square with the facts. First, many Centrals were formed and thrived prior to the establishment of the *Preussenkasse* in 1895. We do not know as much as we would like about how Centrals operated then, but it is clear from some instances that they had relationships with other credit institutions such as *Landesbanken*. This was the case with the *Bauernkasse*, for example (Kerp 1913, p.31). Scattered remarks suggest that others had ties to for-profit banks (this is discussed in detail in section 5 below). Viewing the *Preussenkasse* as indispensable to the cooperative movement amounts to just accepting its own view of itself.

Table 2 shows that the *Preussenkasse* played a rather different role than implied by the criticism lodged by the urban cooperatives (the Central’s balance sheets do not clearly distinguish the *Preussenkasse* until 1907). Nearly all Centrals borrowed from the *Preussenkasse* at one point or another in the relevant eight-year period, but only a few relied on it year after year, and most of those were in eastern regions where the cooperative movement was quite new, and local credit cooperatives had trouble raising deposits. Most Centrals borrowed from the Prussian institution in some years and lent to it in others, and were in effect lending to other Centrals via the *Preussenkasse*. Summing the columns of Table 2 shows that these Centrals at least were collectively net *lenders* to the *Preussenkasse* in some years.

Any subsidy to the cooperative movement through preferential interest rates had to have been quantitatively insignificant. First, the *Preussenkasse* usually reported a return on capital of 3-4 percent in our period. The State put up the money, but was rewarded for it; the rates the

institution charged were not in fact heavily subsidized. And even a modest subsidy does not imply that its lending was critical to the Centrals. To see this, consider a counter-factual exercise in which a Central has to find another borrowing source. Take Wormditt, which was the only Central to borrow from the *Preussenkasse* in all eight years. In 1907 its net debt to the *Preussenkasse* was nearly 15 million Marks. Suppose it had been forced to finance that debt at a higher rate. At a higher cost of funds it probably would have had a smaller debt, but leave that issue aside for the moment. Assume the counter-factual lender charges the Wormditt Central an extra 3 percent per year, a figure which is intentionally high. At this rate, the Wormditt Central's debt would have cost it an extra 45,000 or so Marks that year. How large is this figure? At the end of 1907, the Wormditt Central had about 3 million Marks in loans extended to its members. Raising the interest rate on those loans by 1.5 percent would have covered the counter-factual extra interest due to a counter-factual non-*Preussenkasse* lender. Raising its own rates by 1.5 percent would of course reduce what its members could do for their members, but it would not have crippled the institution.

We can only speculate on alternatives, but it seems more likely that the Wormditt Central just would have scaled-back its own lending, and thus provided less finance to local cooperatives in its region. At some level this was precisely Crüger's complaint: the *Preussenkasse's* credit had allowed cooperatives in some regions to grow faster than their ability to collect deposits. This is true, clearly, in a few cases, but hardly justifies the claim that the Centrals only existed to funnel state aid to local cooperatives.¹⁸

¹⁸ Crüger and others associated with the Schulze-Delitzsch cooperatives also liked to draw attention to instances of credit cooperatives that made virtually no loans, and instead deposited their funds with a Central. In their organ *Blätter für Genossenschaftswesen* 32 (9 August 1902) they point to the Stieghorst credit cooperative, which had deposited 4495 Marks of its 5462 Marks in assets at the Central. The cooperative had, in fact, no loans extended at the time. This is a strange practice, and it may just reflect a situation where people want a depository institution. The cooperative's membership was growing. In fairness, the auditing associations did not like situations like this, because they thought it relatively easy for a local cooperative treasurer to embezzle such funds.

The real sources of Centrals' financing

Table 3 reports a remarkable fact that is implicit in the term *Geldausgleich*, but not explicitly discussed in any work of which I am aware. The *Bauernkasse* was not a conduit for credit from the *Preussenkasse* or any other external institution. Rather, it acted as a sort of cooperative's mutual fund, allowing the credit cooperatives of its region (collectively) to lend to a basket of other cooperatives. The other sources that survive are not always this detailed, but the pattern for the *Ländliche Centralkasse* is very similar, and the more aggregate information available for other Centrals is consistent with this practice. Some slightly more detailed information available for the *Bauernkasse* for 1902 shows that about one-third of the member credit cooperatives were net debtors in that year, but for local credit cooperatives, loans tended to be short-term matters. Only the other cooperatives consistently had large, long-term debts.

Many sources note that local credit cooperatives often collected more in deposits than they wanted to give out as loans. All but one of the local credit cooperatives studied in Guinnane (2001) faced this situation. Why not just adjust interest rates? Some observers claimed that local demand and supply were very inelastic, and no realistic rates could equate the two in a very small village. Cooperative leaders usually cautioned against frequent changes of interest rates on the grounds that this would create too much work for the treasurer, although this cannot explain the chronic situation found in many credit cooperatives. Another explanation is reflected in a brief notice in the Haas organ *Deutsche Landwirtschaftliche Genossenschaftspresse* in March of 1904. Large savers, the author claims, are influential within the cooperative, and can persuade others to do something that is in their private interest but not that of the cooperative. However correct this third explanation, the minutes of local general meetings suggest that interest-rate decisions were the subject of lively debate, and remind us that in a mutual organization, setting interest rates is largely a matter of dividing a surplus between borrowers, lenders, and owners of shares.¹⁹

¹⁹ The notice is quoting from a local cooperative publication in Bonn. The text appears in 31(6), 31 March 1904, p.91.

What is the significance of this finding? One interpretation is that there was more variation in the supply of and demand for credit within rural communities than Schulze-Delitzsch thought. The division of cooperatives into specific functions (credit, creamery, etc), a practice that was normal in the Haas group, meant that sources of credit were institutionally separated from the demand for credit. Most cooperative leaders at the time thought this a small price to pay for the advantages of specialization and control that the single-purpose cooperatives enjoyed. But the practice created a demand for an institution that could let cooperative savings flow to cooperative investment. The Centrals system was better than combining credit with other cooperative functions, because it meant the members of credit cooperative X could invest their excess deposits in a portfolio of all the other cooperatives in their region. *Geldausgleich* could work, even at a fairly small scale.

4. The Centrals and shocks

One possible function of the Centrals might be to smooth shocks to its members delivered by weather and economic forces beyond their control. This function was not much mentioned in the contemporary discussions, except in off-hand references to especially severe, localized problems. My own analysis of the Central's role in smoothing such shocks is still incomplete, but has thus far not uncovered strong evidence that they were important in this respect. Whether this reflects data limitations or a real limitation of the Central may never be known.

We want to distinguish three different month-to-month changes in local cooperatives' need for loans from their Central. One is simply seasonal, and to the extent it is largely predictable implies no real need for something like a Central. Local credit cooperatives, for example, tended to have large excess deposits in January. This was foreseeable, and a credit cooperative could either plan to make a lot of loans in February or simply deposit the excess cash somewhere else. Similarly, wineries had predictable demands for cash to pay their members and a

slightly different seasonal pattern of cash inflows. So long as it was not unusual, it posed no specific challenge.

What were the cash-flow patterns for the Centrals? The Haas Centrals report their monthly cash flows (both to and from members) for the period 1895-1914, but these figures have a serious defect: they aggregate all payments from members to the Central into one category, and all payments from the Central to its members into another. Thus we cannot, from this source, distinguish flows to or from credit cooperatives from those to or from other types of credit cooperatives. In the same vein, we also cannot distinguish loan repayments from deposits. Still, this source can tell us on net how much was sent to or from the Central in each month, and thus gives us an idea of what kinds of shocks generated demands for loans that exceed that regional cooperative group's own resources. The fact that the Haas group printed this detailed table every year (without comment, unfortunately) suggests that they thought the patterns were informative.

Table 4 summarizes the flows using analysis of variance. The three dependent variables are net flows to the Central, and gross flows to, and from, the Central in a given month. In this example, F-statistics below 2 indicate the variables are not significant at conventional confidence levels. The ANOVA shows how much of these flows was predictable. Fully 63 percent of the variation in gross flows is accounted for by month, year (which mostly reflects Central growth) and the identity of the Central. Net flows were a bit more complex, but even here about 1/3 of variance can be explained as seasonality and location.

What about the rest? We can distinguish two different types of irregular shocks, one of the type Schulze-Delitzsch seemed to have contemplated in criticizing Centrals, and another for which the Central would be more helpful. Imagine a shock that affects half of a Central's members in one way, and the other half in precisely the opposite way. A Central would see a large increase in the volume of cash flow, as cooperatives with more funds deposited them and the Central re-lent the funds to cooperatives in need. But the Central would not, in this artificial scenario, have any need to adjust its own net borrowing from the *Preussenkasse* or the larger

capital market. Schulze-Delitzsch thought this scenario unlikely; that Centrals, to be manageable, would have to restrict their operations to such a small area that most member cooperatives would face similar shocks. In what follows we see some evidence that he was right, but it is worth noting that he implicitly ignored the diversification that arises from difference *types* of cooperatives belonging to a single Central, the diversification we saw in Table 3.

A second type of irregular shock would dwarf any ability for the Central to re-lend among its members, and require it to borrow more from the *Preussenkasse* or the larger capital market. Suppose the net demands of the members were larger, because of a shock, than the Central could finance out of its own resources. Then we would expect to see Centrals borrowing more from outside, and using those funds to replace withdrawn deposits and to extend fresh credit to cooperatives that need special assistance.

Extensive but still incomplete efforts to test for such effects has thus far not yield consistent answers. My basic strategy is to test whether a measures of shocks to the local economy predict changes in the amount of funds flowing to and from Centrals. To abstract from the obvious seasonality in the flows, I have transformed all series into the monthly “surprises” implied by the residual in a regression of each series on a series of month dummies. Although the Haas centrals implies a panel of 18 Centrals and 240 months of observations, the surprises were constructed by allowing each Central to have its own distinct seasonal pattern of flows, as is clearly the case. I then tested the ability of various indicators of shocks to predict surprises. The indicators are specific to the Central’s region; that is, indicators for the Münsterland are used to test for the *Ländliche Centrankasse*’s response to shocks. The data on potential shocks are so rich that the challenge is to know where to stop.

Thus far some patterns emerge, but some are negative and none are very strong. First, the flows are not very sensitive to conditions on the money markets or even the *Preussenkasse*’s interest rates. This is a bit surprising, given the exclusive financial relations the *Preussenkasse* insisted on, and it may just indicate that the ultimate demands for credit were not very interest-

elastic over the ranges observed. Weather shocks in the form of precipitation and temperature variables have larger effects, but are not consistent. Unusually wet months seem to cause some Centrals to borrow more, but others are unaffected. Temperature shocks have a built-in problem. There are very large cross-sectional variations in month-to-month precipitation in Germany, but almost none in temperature. When it gets cold, the entire country gets cold, meaning that these shocks are common and thus cannot explain cross-sectional differences in financial flows. I have also experimented with shocks to agricultural prices, at first rye, wheat, and oats prices. Only rye seems to have very broad effects, and here we find that positive shocks to rye prices reduce Centrals borrowings with very long lags, as much as six to twelve months.

The next step in this exercise will be to broaden the range of shocks and focus the econometrics; the results mentioned thus far do not exploit the panel structure of the data. Still to be considered are series on climatic incidents (such as hail or frost), yields, and the prices of other outputs such as cattle or wine. These shocks are more problematic given the structure of the data, since they are only annual in nature, but the lack of strong effects noted so far warrant further investigation. Another approach, only explored at this point, is to look at annual changes in the balance-sheets of the Centrals and how they change in response to shocks. The problem here is sample size – there are at most 18 years of observation per Central – but the changes in the Central's position at the *Preussenkasse* and the external capital market might be the best measure of its response to shocks.

My results thus far, however, may just show how little Schulze-Delitzsch really knew about rural life. Many shocks to a rural economy will affect different enterprises differently. A spike in grain prices hurts net consumers, but helps net producers, so long as the spike was not cause by a local crop failure. Rainy weather will hurt some producers but help others.

Thus far we have not answered why a Central in particular was needed, but we know more about how the Centrals actually functioned in the rural cooperative system. They were clearly very popular, as majorities of rural cooperatives joined them and put up with their

sometimes restrictive rules. They were not, at least to a great extent, simply conduits for state aid, as their critics charged. And the Centrals were able to gather together a diversity of cooperative types and help them each benefit from working in concert with others. These benefits came out in normal credit relations, as shown in Table 3, and more speculatively in the ability of some cooperatives to help others deal with shocks. The next section asks why the institution that performed these functions had to be a specialized part of the cooperative system, instead of another financial institution.

5. What did the Centrals really do?

The Centrals apparently performed admirably. But they were, after all, tiny financial institutions in a land of giant and increasingly sophisticated financial institutions. Why did the cooperative movement insist on these specialist banks, when they could have (and in fact, did) arrange for financial services from huge, well-diversified banks?

One issue can be dismissed at the outset. Before acquiring legal status as business enterprises, cooperatives often experienced difficulty in raising loans from banks and other formal financial institutions for the simple reason that they could not be sued in court — they were “permitted associations” rather than legal persons. When cooperatives did borrow from outside institutions, the loans were technically loans to specific individuals within the cooperative. This was one reason Schulze-Delitzsch agreed to the creation of a bank mentioned below (a specialized bank for cooperatives). But this concern cannot account for the rural Centrals. The 1868 North German Confederation statute gave cooperatives legal personhood, and the 1889 Reich law specifically recognized the ability of cooperatives to sue and be sued.²⁰ The law that eased the formation of Centrals also removed the one *institutional* disability that made Centrals most important.

²⁰ See Müller (1901, pp. 87-88) on the 1868 law.

Alternatives to Centrals

The best way to consider alternatives to Centrals is to trace those that were actually used. Despite Schulze-Delitzsch's reservations about the need Centrals, several of his cooperatives raised the Centrals issue at the organization's 1859 meeting and again at the 1860 meeting. Schulze-Delitzsch spoke against forming a Central both on the general grounds noted above and on the specific grounds that current conditions did not favor establishing a new banking institution. But he did but agreed to a *Zentralkorrespondenzbureau* that would broker loans between cooperatives and that would attempt to locate loans for cooperatives from commercial banking houses (Thorwart 1911, p.3). The Bureau was able to obtain credit from two commercial banks and distributed a sort of newsletter among its members in which cooperatives advertised their willingness to lend or their need for cash. While it is not known how many inter-cooperative loans were made this way, the process placed Schulze-Delitzsch in the position of vouching for one cooperative's soundness to another.

The project quickly encountered a problem that shows up in many rural Centrals: at the interest rates suggested, much more money was offered than there was demand for it. This experience did not change Schulze-Delitzsch's mind about a Central, and his success in the early 1860s in negotiating contracts with commercial banks for the cooperatives reduced pressure on him to agree. Then war with Denmark (in 1864) intervened to change money-market conditions drastically. A financial panic accompanied the outbreak of war, leading to an increase in interest rates and a rupturing of pre-established commitments as banks scrambled for liquidity. Cooperatives that had relationships with banks soon discovered that in the middle of a financial crisis they could not rely on their bankers. Schulze-Delitzsch concluded that in a crisis cooperatives could only rely on their own bank.²¹

²¹ See Thorwart (1911, pp.14-15). The author makes clear that many in Schulze-Delitzsch's circle disagreed with his opposition to a Central; one wonders whether the war was a convenient excuse for changing his mind.

The product of this change of heart was the *Deutsche Genossenschaftsbank von Sörgel, Parrisius und Co.* (hereafter DGSP), founded in 1864. The DGSP's statutes described its purpose as banking in all forms; its activities were not limited to the service of Schulze-Delitzsch's credit cooperatives. This marks an essential difference between the DGSP and the Centrals formed later by the rural cooperative movement. The DGSP had its main office in Berlin but soon established a branch in Frankfurt to deal with cooperatives in southern Germany. Available information does not provide much detail on the breakdown of business between cooperatives and other customers. We can say, however, that in most years total turnover from business with cooperatives was larger than for other customers, although not overwhelmingly so (Thorwart 1911, p.33).²² The bank extended credit both as outright loans and by discounting bills, and later cleared checks for its member cooperatives. The bank grew rapidly, and in 1904 had a total capital of 30 million Marks (Thorwart 1911, p.72). Yet this sum was small by the standards of Germany's Great Banks.

The Deutsche Genossenschaftsbank lasted until 1904, when it was bought by the Dresdner bank, the third-largest of the Great Banks. The purchase followed a number of years of severe losses for the DGSP. The *Blätter für Genossenschaftswesen*, a publication of the Schulze-Delitzsch cooperatives, attributed the merger to the same competitive pressures that had set off a wave of concentration in German banking in the 1890s. Larger banks could charge lower fees for banking services, and banks (such as the DGSP) that did not engage in investment banking were cut off from important sources of profit (quoted in Thorwart 1911, pp.72-73). The Dresdner Bank took on several leaders of the defunct DGSP, and continued to operate a special department for servicing Schulze-Delitzsch credit cooperatives (Seelmann-Eggebert 1927, p.28).

Prior to 1889, some rural cooperatives formed relationships that resemble one form of later Central. A regional association would contract with a bank (either a commercial bank or a

²² Cooperatives accounted for about 60 percent of total turnover in 1904, somewhat less in earlier years. At the time of its sale to the Dresdner Bank, only 30 percent of the DGSP's stock was owned by credit cooperatives.

State bank) to provide services for member cooperatives. Cooperatives in Württemberg had a contract with the a State bank in Stuttgart (*Verein für Socialpolitik* 1896, Vol. I, p.282). Cooperatives in Baden had a similar relationship with the Rhein Mortgage Bank in Mannheim. Under this contract the Bank took deposits from and made loans to member cooperatives at rates set by the cooperative association. The association received .1 percent of all turnover in the loan accounts. The Bank also agreed, should cooperative deposits be insufficient to cover all loans, to lend out of its own funds at rates pegged to rates prevailing in the money market (*Verein für Socialpolitik*, Vol. I, p.305).

Sometimes *individual* credit cooperatives made arrangements to deal with the problems of excess or insufficient deposits. Several arrangements were used. At the time of Schulze-Delitzsch's initial opposition to forming a Central, some of the larger Schulze-Delitzsch credit cooperatives began to act as informal regional Centrals, accepting deposits from and lending to their smaller neighbors (Wygodzinski 1911, pp.170-171). Wuttig (1914, p.8) claims that some credit cooperatives deposited excess money at a nearby *Sparkasse*. Many accounts note that urban cooperatives had ties to for-profit bankers, and not just the DGSP. Kraus (1876, pp.25-6) noted that some Raiffeisen cooperatives in the Rheinland used private bankers as outlets when they had excess deposits. He notes the supreme irony of the squabble between Schulze-Delitzsch and Raiffeisen: Raiffeisen's cooperatives in more than one case deposited excess cash at nearby *Schulze-Delitzsch* cooperatives! Some cooperatives, moreover, dealt with excess deposits by refusing them. The Raiffeisen cooperative in Hamm, for example, limited deposits to 3,000 Marks and refused deposits from non-members.²³

There were two possible alternatives to Centrals: a "hands-off" relationship with one or more financial institutions, or a longer-term relationship with a bank that did not restrict its activities to cooperatives. After it purchased the DGSP, the Dresdner bank had a special

²³ Kraus (1876, Note in statistical tables).

department for cooperatives, and in fact established a second office (in Frankfurt) just to serve those clients. Could either of these arrangements serve the roles of the Central, providing a safe outlet for excess deposits, dealing with seasonal variations and other threats to liquidity, acting as a development bank for cooperatives that could not attract deposits, and providing emergency loans to troubled cooperatives? Prior to the formation of Centrals, as we saw, some cooperatives would deposit excess cash with private bankers or even other cooperatives. But it is hard to see how such hands-off relationships could replace a Central. Even after the 1889 law fixed the legal problems associated with lending to a cooperative, cooperatives were, to conventional bankers, small organizations run by people without much business or banking experience. They would be happy to take deposits, of course, and a cooperative might be able to arrange for limited loans during seasons when money was tight. But how could a hands-off relationship provide extensive long-term financing or emergency loans to cooperatives? A bank would have neither the necessary information nor the incentive to provide such financing. Small wonder that the cooperatives that did not belong to a Central tended to be much larger than those that did, and were more likely to be limited-liability cooperatives (which implies a greater preponderance of Schulze-Delitzsch cooperatives).²⁴

The role of exclusivity

Both the *Preussenkasse* and the individual Centrals had firm and detailed rules binding their client institutions to exclusive dealings both as creditor and debtor. There are two aspects to this exclusivity, both of which tell us much about the Central's role in the system. The Central had a simple reason to require that its members not borrow from anyone else. At one level, this made it simpler to know the true condition of their members; if the local cooperative respected

²⁴ See "*Mitteilungen*" for any year. In 1905, for example, 85 percent of all unlimited-liability credit cooperatives belonged to a Central. The mean unlimited liability Central member had 105 members, compared to 328 members in unlimited-liability credit cooperatives that were not Central members. Among limited-liability credit cooperatives, Central membership was less common (69 percent) but the difference in cooperative size was even larger. These reports exclude Bavaria, Baden, and some other smaller states.

the rules, then cooperatives' only debts were to the Centrals, and in the case of credit cooperatives, their depositors. At another level, by agreeing not to borrow from anyone else, the local cooperative was agreeing to let the Central police and control all of its borrowing. This benefited the system in two ways. First, it meant that all cooperatives working with a Central had a sort of investment advisor with the power to prevent them from doing at least some of the unwise things they might want to do. Second, and more importantly, it enhanced the Central's ability to back up its members when they needed extraordinary help. Any "lender of last resort" function implies a real possibility for moral hazard. The exclusivity provisions meant the Central had some teeth in preventing those with whom it had this arrangement from doing unwise things.

The exclusivity provisions also tell us much about the Central's role in the capital market. Many complaints in Central records indicate that the exclusivity provisions were intended to prevent cooperatives from making better deals elsewhere. During the financial crisis of 1907, for example, some local credit cooperatives apparently withdrew all their deposits at the Central and used up all their credit to invest the money in higher-yielding investments elsewhere.²⁵ This put the Central in a bind, as it was refunding deposits at the same time it was extending more credit. The fact that the credit cooperatives had an incentive to do this just shows that the Centrals were not paying or charging market rates.²⁶ Even in less extraordinary times, some local cooperatives would apparently cut out the middleman and deal directly with one another: a credit cooperative would lend directly to a creamery, for example. The Central's interest in preventing this practice was two-fold. They reasoned, correctly, that the loan harmed both parties to the transaction, since for the credit cooperative it was ordinarily a very large loan, and might have to be recalled early if conditions demanded. In addition, the Central did not want its member credit cooperatives cherry-picking credit demand, taking all the best risks and leaving it with only the bad ones. But once

²⁵ And some individuals apparently did the same to their local credit cooperative (*Deutsche Landwirtschaftliche Genossenschaftspresse* 36(9), 15 May 1909 pp.190-192.

²⁶ Hillringhaus (1922, p.42-43) claims the *Preussenkasse* also found itself lending money to cooperatives for speculative investments in financial markets.

again, the fact that the local cooperatives had an incentive to deal directly with each other shows that the Central was paying less than the opportunity cost of funds to some of its depositors, and charging more than the opportunity cost of its funds to some borrowers.

The role of exclusivity, that is, was to lock up capital in the cooperative system. Hillringhaus (1922, p.42) explicitly defends the idea on this basis, and cites examples of cooperative leaders doing the same. This was part of a larger implicit contract that said to local cooperatives, “if you agree to support us when you can, we’ll support you when you need it.” The arrangement only worked if the Central was given the resources and knowledge it needed to help its members when they needed help, and keep them from needing help to the extent possible.

6. Conclusions

So why the Centrals? From the standpoint of their members, they had several advantages over any type of arrangement with a more diversified institution such as the Dresdner Bank. Some advantages were probably small. Centrals knew the cooperatives and their special needs, but then so did the Dresdner, and any other commercial bank that made a commitment to this business could have acquired any knowledge needed. The Centrals were owned and controlled by their members, so the local cooperatives did not need to fear that the managers were taking risks the cooperatives did not want. But this hardly seems a concern with the massive universal banks developing in late 19th-century Germany.

Another advantage is not entirely economic, but we must bear in mind that these cooperatives were not only economic institutions. To many participants, the fact that the Central would re-lend excess deposits to another cooperative was an *advantage*, rather than a sign of poor diversification. Even in the less ideological Haas group, the idea that cooperatives were distinctive institutions with important social goals was never lost, and it was easy to put the case that “keeping the money cooperative” was worth some foregone interest.

But surely the overwhelming difference between a Central and a commercial bank was in their commitment to the cooperative system, which means a commitment to the health and growth of as many local cooperatives as practical. The Schulze-Delitzsch group learned the hard way that commercial bankers had their own interests, and were willing to cut their cooperative clients loose when serving the cooperatives might cost them money. This could never be the case with a Central, which might make mistakes, but would never see a difference between its own interests and those of its members.

REFERENCES

Archival Materials

WGZ-Bank. Archives of the Westdeutsche Genossenschafts-Zentralbank eG.

Statuten der "Ländlichen Central-Kasse" zu Münster in Westfalen. St. A. Münster.

"Enquete-Kommission," 1875. "Bericht der Enquete-Kommission über die Raiffeisen'schen Darlehnskassen-Vereine." St. A. Münster, Oberpräsidium Hamm, No.6142.

Publications of Cooperatives, Centrals, and Associations

Blätter für Genossenschaftswesen (publication of the Schulze-Delitzsch federation). Various years.

Landwirtschaftliches Genossenschaftsblatt (publication of the Raiffeisen federation). Various years.

Deutsche landwirtschaftliche Genossenschaftspresse (publication of the Haas federation). Various years.

Reichsverband, various years. *Jahrbuch des Reichsverbands der deutschen landwirtschaftlichen Genossenschaften*.

Official Publications

J. R. Cahill, 1913. *Agricultural Credit and Cooperation in Germany*. U.S. Senate Document Number 17, 63rd Congress, 1st Session.

Deutsche Bundesbank, 1976. *Deutsche Geld-und Bankwesen in Zahlen 1876-1975*. Frankfurt

Mitteilungen zur deutschen Genossenschaftsstatistik (Sonderabdruck aus der Zeitschrift des Königlichen preussischen statistischen Bureaus.) Various years.

National Monetary Commission, 1911. *Banking and Currency Systems*. Senate Documents Vol. 14, 61st Congress, 2nd session.

Other Sources

Banerjee, Abhijit, Timothy Besley, and Timothy W. Guinnane, 1994. "Thy Neighbor's Keeper: The Design of a Credit Cooperative, with Theory and a Test." *Quarterly Journal of Economics* 109(2):491-515.

Busche, Manfred, 1963. *Oeffentliche Förderung deutscher Genossenschaften vor 1914*. Berlin.

Capaun-Karlowa, 1874a. *Die Ländlichen Darlehnskassen-Verein nach dem System Raiffeisen. (Eine Entgegnung auf die über diesen Gegenstand erschienen Artikel des Herrn Dr. Schulze-Delitzsch)*. Separat-Abdruck aus der Rheinischen Wochenschrift für Land- und Volkswirtschaft.

- Capaun-Karlowa, 1874b. *Die Ländlichen Darlehnskassen-Verein nach dem System Raiffeisen. (Eine Entgegnung auf die über diesen Gegenstand erschienen Artikel des Herrn Dr. Schulze-Delitzsch)*. Separat-Abdruck aus der Rheinischen Wochenschrift für Land- und Volkswirtschaft.
- Crüger, Hans, 1909. *Kritische Bemerkungen zu Entwicklungstendenzen im deutschen Genossenschaftswesen*. Berlin.
- Eichhorn, Friedrich, 1910. "Die Liquidität der Kreditgenossenschaften." *Jahrbücher für Nationalökonomie und Statistik* 95:507-530.
- Fairbairn, Brett, 1994. "History from the Ecological Perspective: Gaia Theory and the Problem of Cooperatives in Turn-of-the-Century Germany." *American Historical Review* 99(4): 1203-1239.
- Faust, Helmut, 1977. *Geschichte der Genossenschaftsbewegung*. 3rd edition, Frankfurt a.M.
- Ghatak, Maitreesh, and Timothy W. Guinnane, 1999. "The Economics of Lending with Joint Liability: Theory and Practice." (with Maitreesh Ghatak). *Journal of Development Economics* 60:195-228.
- Guinnane, Timothy W., 1994. "A Failed Institutional Transplant: Raiffeisen's Credit Cooperatives in Ireland, 1894-1914." *Explorations in Economic History* 31(1):38-61.
- Guinnane, Timothy W., 1997. "Regional organizations in the German cooperative banking system in the late nineteenth century." *Ricerche Economiche*, 51(3): 251-274.
- Guinnane, Timothy W., 2001. "Cooperatives as Information Machines: German Rural Credit Cooperatives, 1883-1914." *Journal of Economic History* 61(2): 366-389, 2001.
- Guinnane, Timothy W., 2003a. "A 'Friend and Advisor: External Auditing and Confidence in Germany's Credit Cooperatives, 1889-1914." *Business History Review* 77: 235-264.
- Guinnane, Timothy W., 2003b. "Delegated Monitors, Large and Small: Germany's Banking System, 1800-1914." *Journal of Economic Literature* XL: 73-124.
- Guinnane, Timothy W., In press. "Trust: A Concept Too Many." *Jahrbuch für Wirtschaftsgeschichte*.
- Guinnane, Timothy W. and Ingrid Henricksen, 1998. "Why Credit Cooperatives were Unimportant in Denmark." *Scandinavian Economic History Review* 46(2): 32-54, 1998.
- Hillringhaus, 1922. *Die Preussische Zentralgenossenschaftskasse: Ihre Aufgaben und ihr Wirken aus 25 jähriger Tätigkeit*. Berlin.
- Jost, H., 1913. "Probleme der genossenschaftlichen Kreditorganisation. Genossenschaftliche Zentralkassen." *Schmollers Jahrbuch* 37(4):329-419.
- Kerp, 1913. *Organisation und Tätigkeit des Verbandes rheinischer Genossenschaften sowie der ihm angeschlossenen Zentralinstitute*. Cologne: Verband rheinischer Genossenschaften e.V.

- Kraus, Theodor, 1876. *Raiffeisen'schen Darlehnskassenvereine in der Rheinprovinz. Band I: Statistisch und Beschreibung*. Bonn.
- Kraus, Theodor, 1877. *Raiffeisen'schen Darlehnskassenvereine in der Rheinprovinz. Band I: Kritische Bemerkungen*. Bonn.
- Müller, Friedrich, 1901. *Die geschichtliche Entwicklung des landwirtschaftlichen Genossenschaftswesens in Deutschland: von 1848/9 bis zur Gegenwart*. Leipzig.
- Schulze-Delitzsch, Hermann, 1875. *Die Raiffeisen'schen Darlehnskassen in der Rheinprovinz und die Grundcreditfrage für den ländlichen Kleinbesitz*. Leipzig.
- Schulze-Delitzsch, Hermann, 1897. *Vorschuss- und Kredit- Vereine als Volksbanken*. 6 edition, edited by Hans Crüger. Breslau.
- Seelmann-Eggebert, E.L., 1927. *Die Systeme im neuzeitlichen deutschen Genossenschaftswesen*. Stuttgart: Kohlhammer.
- Thorwart, F., Editor., 1909. *Hermann Schulze-Delitzsch's Schriften und Reden*. Volume I. Berlin.
- , 1910. *Hermann Schulze-Delitzsch's Schriften und Reden*. Volume II. Berlin.
- , 1913. *Hermann Schulze-Delitzsch's Schriften und Reden*. Volume V. Berlin.
- Thorwart, F, 1911. *Die Deutsche Genossenschafts-Bank von Sörgel, Parrisius, & Co. und der Giroverband der Deutschen Genossenschaften*. Berlin.
- Verein für Socialpolitik, 1883. *Bäuerliche Zustände in Deutschland*. Schriften des Vereins für Socialpolitik 22-24. Leipzig.
- Verein für Socialpolitik, 1887. *Der Wucher auf dem Land*. Schriften des Vereins für Socialpolitik 35. Leipzig.
- Verein für Socialpolitik, 1896. *Der Personalkredit des ländlichen kleingrundbesitzes in Deutschland*. Schriften des Vereins für Socialpolitik 73 & 74. 2 Vols. Leipzig
- Wuttig, Martin, 1914. *Die Organisation des genossenschaftlichen Geldausgleiches. Ein Beitrag zur Zentralkassenfrage*. Jena: Fischer.
- Wygodzinski, W., 1911. *Das Genossenschaftswesen in Deutschland*. Berlin.
- Wygodzinski, W., 1917. "Kreditgenossenschaftliche Fragen." *Jahrbücher für Nationalökonomie und Statistik* 108:478-494.

Figure 1

German interest rates

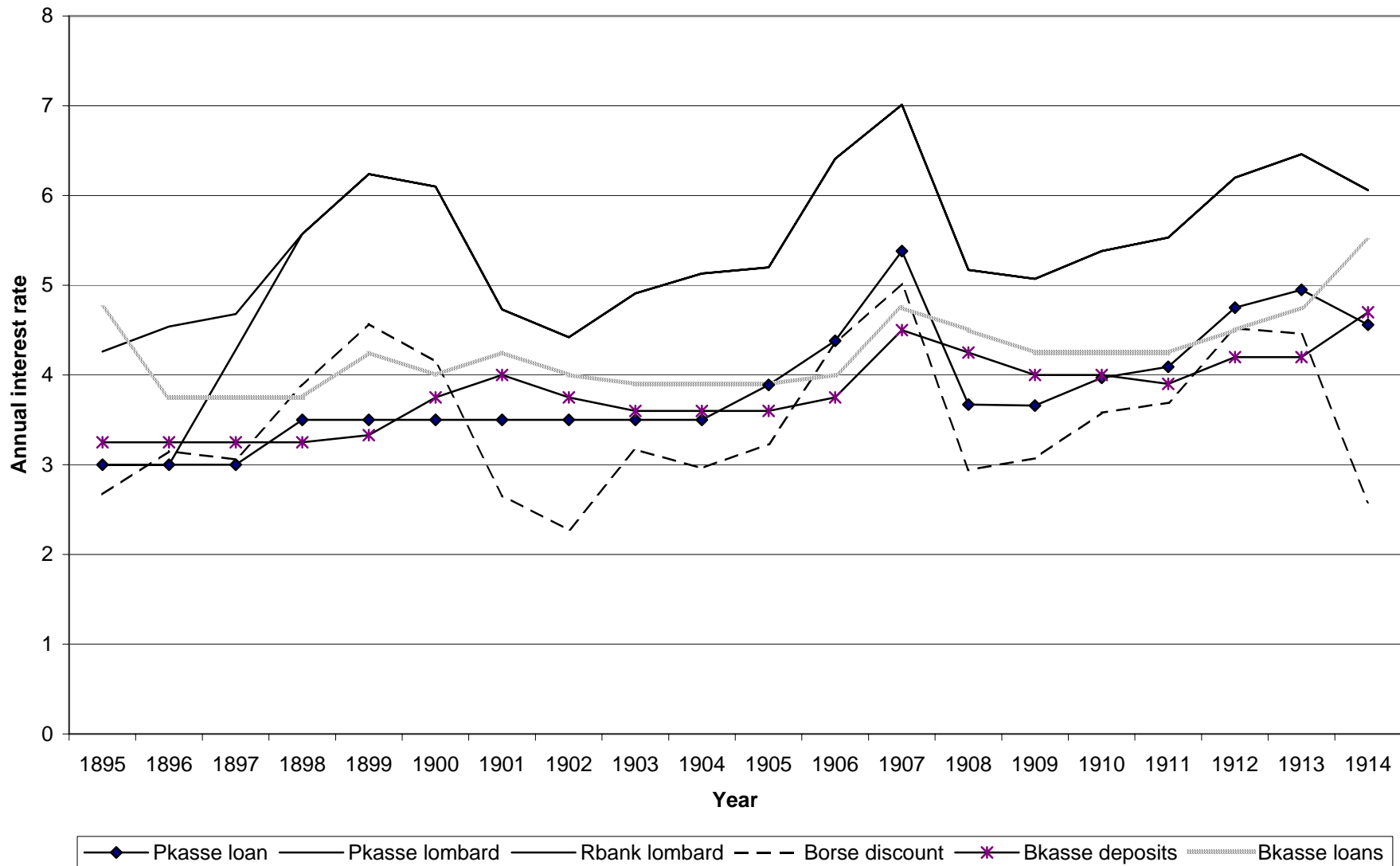


Table 1: Overview of the Centrals belonging to the Haas federation, as of 1911

	Membs	Assets	Capital	Percentage of members that were:			Distribution of Central assets and liabilities (percentages)			
				Credit coops	Other coops	Other	Assets lent to:		Liabilities owed to:	
							Coops	Financial. Institutions	Coops	Financial institutions
Berlin	567	14,233	1,077	87	12	1	58	36	90	2
Bonn	305	4,495	860	37	58	5	76	20	74	4
Breslau	847	23,442	2,207	89	9	2	73	25	88	2
Darmstadt	613	21,425	3,050	67	20	14	57	43	78	4
Dresden	442	10,515	486	60	38	1	59	31	56	39
Güstrow	60	843	40	57	17	27	65	35	83	12
Halle	923	25,598	2,321	72	27	1	70	29	74	17
Hannover	532	9,396	1,063	88	8	4	84	13	72	15
Kassel	90	1,066	416	81	13	6	98	2	46	14
Kiel	388	9,981	2,565	90	5	5	71	25	48	19
Köln	723	17,563	1,938	76	23	2	82	17	87	1
München	2417	42,854	2,329	93	6	1	56	25	69	23
Münster	566	20,299	1,159	95	1	4	83	16	62	32
Neisse	372	10,747	1,768	86	13	2	94	5	60	23
Oldenburg	91	3,079	247	73	22	5	69	28	72	20
Posen	400	13,412	2,168	76	23	1	70	25	70	12
Stettin	524	33,416	2,138	73	27	1	43	54	72	13
Wormditt	73	2,613	250	96	4	0	45	26	71	18

Notes: Assets and capital in thousands of Marks. These Centrals accounted for 9933 cooperatives and collectively held assets of 264 million Marks.

Table 2: Net lending to the *Preussenkasse*, Haas Centrals, 1907-1914

	1907	1908	1909	1910	1911	1912	1913	1914
Berlin	-1193	251	1134	1938	1078	-2789	-2240	0
Bonn	-1050	-659	170	-194	-147	-1481	60	931
Breslau	-4100	-2194	188	3668	1776	-5554	-7734	-1838
Darmstadt	2334	919	1650	4294	5892	na	na	na
Dresden	6	0	510	5	3	1	0	0
Güstrow	6	107	261	341	196	81	0	-218
Halle	-558	1618	121	450	69	94	1168	1067
Hannover	-393	519	-1102	311	-967	-1266	796	4325
Kassel	-371	-191	-54	-111	-137	-415	0	-4
Kiel	1022	1023	-75	9	-88	87	-1808	783
Köln	267	553	1156	-925	-151	-1428	-1077	6499
München	-3434	2824	1835	0	696	0	0	3
Münster	-4035	737	-1363	-2986	-3000	-884	-1566	6449
Neisse	-1130	-1688	-1356	437	-1145	-2276	-4510	599
Oldenburg	62	693	326	28	159	194	-94	-92
Posen	-2301	-1778	-329	-1886	-1609	-2121	-1955	-1024
Stettin	-1264	-1354	364	509	280	172	417	4966
Wormditt	-1496	-588	-432	-306	-108	-490	-885	-595

Source: Haas Centrals database discussed in text.

Note: Figures in thousands of marks. A positive value implies that the Central has more on deposit at the *Preussenkasse* than it has borrowed.

Table 3: Net lending to *Bauernkasse*, by cooperative type

Type of cooperative	1906	1909	1911	1912	1913
Credit cooperatives	3589.96	1614.02	-347.19	-1037.87	-1892.02
Credit cooperatives plus all fixed-term deposits	3589.96	6125.02	4791.81	4117.13	3506.088
Creameries	-1129.81	-1031.67	-1007.39	-1383.17	-1496.22
Wineries	-1527.58	-1120.54	-757.89	-678.86	-568.43
Purchasing and marketing	-916.88	-1695.16	-1527.34	-1242.17	-1575.64

Note: Figures in thousands of marks. A negative figure indicates the institutions are collectively net debtors to the Central. The second credit cooperative is an approximation; nearly all fixed-term deposits belonged to credit cooperatives.

Source: *Rechnung und Bilanz* for the *Bauernkasse*, various years.

Table 4: Sources of variation in Haas Centrals flows data

(Analysis of variance)

	Net flows	Dependent variable	
		To central	From central
R-square (adjusted)	.34	.63	.63
F-test for:			
Model	5.84	16.87	17.04
Month	60.63	8.18	14.21
Year	4.45	189.28	187.81
Central	0.61	205.18	203.70
Month*year	2.25	0.37	0.47
Month*central	6.81	1.10	1.27

Note: There are 3888 monthly observations. The dependent variable consists of all payments to and from the Central; the source does not permit distinguishing, for example, deposit withdrawals from loan disbursements.

Sources and notes for figures

Figure 1:

Note: “Lombard” rates are for short-term, secured loans. The *Preussenkasse* adopted a policy in 1898 of pegging its Lombard rate to that of the Reichsbank, which is why the *Preussenkasse* figure is not visible after that date. The rates listed for the *Bauernkasse* are the highs for the year; these are the rates they paid their members on deposits, and charged their members for loans.

Sources: Rates for the *Preussenkasse*, Reichsbank, and Berlin Börse taken from the annual report of the *Preussenkasse* for 1914. “Bkasse” is the *Rheinische Bauern-Genossenschaftskasse eGmbH*, Köln. Source is their annual report for 1914 (WGZ 15-2).