EXPLORATIONS IN ECONOMIC HISTORY **31**, 38–61 (1994)

A Failed Institutional Transplant: Raiffeisen's Credit Cooperatives in Ireland, 1894–1914*

TIMOTHY W. GUINNANE

Department of Economics, Yale University

Horace Plunkett's Irish cooperative association introduced credit cooperatives into Ireland in 1894. The Irish cooperatives were modeled on the very successful Raiffeisen credit cooperatives of rural Germany. Credit cooperatives were never successful in Ireland, in contrast to other branches of Irish cooperation. Irish bankers argued that credit cooperatives failed simply because there was no need for such an institution. Several observers, including parliamentary bodies, came to the opposite conclusion: credit was expensive for smallholders, and credit cooperatives were a potential solution to the problem. This essay argues that several features of the Irish economic and social environment undermined the cooperative's operation. The Irish credit cooperatives never attracted as members the more prosperous locals who provided crucial monitoring and expertise in Germany. The Irish cooperative movement was also never able to develop the strong central auditing federations that supervised and certified German cooperatives. Finally, rural Irish people seemed reluctant to force their neighbors to repay loans or face adverse consequences, which undermined the monitoring and enforcement advantages that cooperatives potentially have over commercial banks. This episode illustrates both the importance of timing in institutional development and the difficulty of transplanting institutions from one social and economic context to another.

> No branch of co-operative activity was instituted in Ireland with higher hopes than agricultural credit societies, none was regarded more fondly by its promoters, none has had fewer opponents or has been more consistently recommended by government commissions and others responsible for public welfare. And yet of all co-operative enterprises still surviving it shows to-day the least vitality and the most meagre results.
>
> Plunkett Foundation (1931, p. 372)

* For conversations and suggestions I thank Abhijit Banerjee, Ben Bernanke, Timothy Besley, Stanley Engerman, William English, Andrew Foster, Harold James, Dwight Jaffee, Frederick Mishkin, Cormac O'Grada, Richard Quandt, Albrecht Ritschl, and participants in workshops at Michigan, Illinois, Stanford, UCLA, and Princeton. The Deutsche Akademischer Austauschdienst and the Economic History Association provided financial support. Tracy DeBlieck provided excellent research assistance.

0014-4983/94 $6.00

The Irish Agricultural Organization Society (IAOS) decided in 1894 that it would make little progress in its program of rural development until Irish smallholders could obtain credit on terms better than those offered by joint-stock banks, merchants, or "gombeenmen" (rural usurers). The IAOS decided to introduce an institution that had proven extremely successful in Germany: the agricultural credit cooperative. For the next 2 decades the IAOS devoted considerable energy and resources to the creation of rural credit cooperatives modeled on the German Raiffeisen system. Yet credit cooperatives never functioned well in Ireland; unlike their German counterparts, few were ever self-sufficient in capital, and many were very badly managed. Eventually the IAOS abandoned the credit cooperatives as unworkable.

This experience with credit cooperatives was not common to all branches of cooperation in Ireland. Creameries organized as cooperatives, to take one example, were extremely successful. Some bankers argued that Irish credit cooperatives failed simply because they were unnecessary: banks and other institutions could fill the credit needs of Ireland's agricultural population. This essay argues that the cooperatives *did* potentially fill an important gap in rural credit markets but were unable to operate in the form attempted because of three features of the Irish environment. First, competition from other aspects of the rural financial system deprived Irish credit cooperatives of *savers,* individuals who played a crucial role in the cooperative's operation in Germany. Second, the Irish cooperative organization never developed the strong auditing federations that played a crucial role in directing and guiding German credit cooperatives. Third, several norms of rural Irish behavior made it difficult for the cooperative to capitalize on its potential advantage over banks, better information on borrowers.

The early 20th century was a time of great hopes in Irish agriculture, as full tenant purchase marked the final stage in the long land-reform program of the late 19th century. Many observers thought this an excellent time to improve rural credit facilities; the failure of the Raiffeisen credit cooperatives was a particular disappointment. This episode also holds lessons beyond Ireland. Credit cooperatives in Germany and in several other Continental countries were extremely successful and by 1914 were collectively major financial institutions. Little is known about the basis of their success, however, beyond their backer's assertions. Their failure to take root in Ireland highlights features of the Raiffeisen system that are not readily apparent in a context where the institution is successful.[1]

[1] The larger project of which this paper forms a part focuses on the credit cooperatives in Germany. See Guinnane (1991, 1992), Banerjee *et al.* (Forthcoming), and Guinnane and Miller (1992) for related discussion. Guinnane (1992) uses the manuscript business records of several German credit cooperatives to study the details of their leadership and behavior.

More generally, the shaping and transplanting of economic institutions is a central issue for economic historians and policymakers alike. Many of the projects advocated by development economists, particularly in matters related to rural credit, amount to the creation of new institutions modeled on institutions successful in other environments (Huppi and Feder, 1990). Examining historical instances of an effort to transplant an institution from one environment to another lends some insights into the process. In this instance we have an extremely clean case: the Irish variant on the Raiffeisen system was in formal terms nearly an exact copy of the German original. The reasons for the failure of Raiffeisen's credit cooperatives in Ireland highlight the complexity of even fairly small and simple institutions and their sensitivity to differences in the economic and social environment.

1. RURAL CREDIT IN IRELAND

Advocates of credit cooperatives throughout Europe viewed the institution as better-suited than banks to satisfy the credit needs of small borrowers. Rural Ireland had a very considerable number of branches of joint-stock banks by the 1890s, but both bank critics and the banks' own representatives argued that these institutions were not able to serve the credit needs of small farmers and laborers. The Departmental Committee on Agricultural Credit in Ireland (1914) concluded that the rural population's credit needs were not adequately met and that the need was greatest among the poorest segment of the population. A few years earlier the Royal Commission on Congestion in Ireland had come to a similar conclusion (Great Britain, 1908).[2] Much of the problem in rural credit markets stemmed from the lending institution's inability to obtain and to use information on borrowers. Only about 60% of Ireland's 863 banking offices were open full time (Great Britain, 1914, Section 43). Part-time bank offices were most suitable for collection of deposits; managers of such institutions could not acquire much knowledge of potential borrowers. Henry Doran, a member of the Congested Districts Board (CDB), told the Departmental Committee:[3]

That paper also discusses two issues beyond the scope of the present paper: (1) A common critique of the Raiffeisen cooperatives was that they were used by local elites as instruments of social and economic control. (2) The development, size, and success of credit cooperatives in Germany varied by region, reflecting, among other factors, local wealth and income distribution and the nature of local economic activity.

[2] The Select Committee on Moneylending took little evidence on rural Ireland, but the evidence it heard was consistent with the later two reports. Kennedy (1977) bases his careful analysis of the notion of "gombeenism" on evidence from the Royal Commission and the Departmental Committee.

[3] The Congested Districts Board was formed in the 1890s to alleviate poverty in the poor or "congested" rural districts of western Ireland.

> When the bank managers are not well acquainted with the solvency and reputation of landholders in districts very remote from the bank—say outside a radius of ten or fifteen miles—it is difficult for them to get loans. Within that radius bank managers have a wonderfully close acquaintance with the financial position of the people, but outside that radius they have little knowledge of the circumstances of a great many of the people who need money. It is therefore more difficult for a landholder of slender means resident in very remote districts to obtain the necessary accommodation than for a landholder of equal financial resources who is personally known to the manager of the bank (Great Britain, 1914, Q4765).

Imperfect information leaves lenders open to two problems. The lender cannot assess the borrower's competence or character. And once the loan is made, the borrower may use the new capital unwisely or simply not work hard enough; without supervising the borrower, the lender may end up with a failed project.

Lenders can charge higher interest rates to compensate for some of the problems caused by information, although recent analysis shows that higher interest rates can exacerbate the selection and monitoring problems (Stiglitz and Weiss, 1981). Some methods used to contend with information problems add considerably to credit costs. In some other European countries peasants were able to obtain credit on the security of their holdings.[4] Land did not make good collateral in Ireland. The 1926 Banking Commission Inquiry, which does not in general take a very strong pro-banker stance, noted that banks found mortgage loans unprofitable "because of the fact that foreclosure and sale are frequently out of the question, at least in many districts, due to the refusal of neighbors or residents to allow such land to be sold" (Banking Commission, 1926, p. 20).[5] Ireland also lacked legal provision for chattel mortgages (mortgages on cattle and other goods) until 1927 (Banking Inquiry, 1938, p. 263). Ireland's banks relied on cosigners instead, even for small loans. Loans were ordinarily made for 3-month intervals, which allowed the bank to monitor the borrower's situation, but forced frequent renewal for long-term projects. The cosigners provided information for the bank (in effect, vouching for the borrower's credit-worthiness) and monitored the loan's use (since the cosigner had an incentive to keep an eye on the borrower). But requiring cosigners raised the cost of credit to the borrower. Cosigners had to be individuals known to the bank, preferably with substantial deposits at the bank. Each cosigner had to show up at the bank for both the initial application and for any renewal, usually at 3-month intervals. For those located any distance from the bank, this meant the borrower had to pay, in addition to the 5% annual interest typically charged by

[4] Germany had very well-developed mortgage credit facilities, but contemporaries argued they were not suited to serving smallholders (U.S. Senate, 1913a, pp. 38–96).

[5] Guinnane and Miller (1992) discuss the mortgage question in more detail.

TABLE 1
Prevalence of Smallholders, Ireland, 1901

Measure	Ireland	Selected counties: Meath	Mayo	Donegal
Percentage of all agricultural holdings valued at £4 or less	27.4	3.1	48.4	51.9
Percentage of all agricultural holdings valued at £4–10	28.8	18.2	36.4	28.9
Number of persons living on agricultural holdings valued at £10 or less[a]	1179	20	143	107
Percentage of total agricultural population living on holdings valued at £10 or less[b]	44.2	35.7	82.1	72.1
Percentage of all agricultural land in holdings valued at £10 or less	23.0	4.5	48.6	60.1

Source. Census of Ireland, 1901, *General Report,* Table 61.
[a] Population in 1000s.
[b] Agricultural population defined as total of those *living* on an agricultural holding.

the bank, the cost of food, drink, travel, and lost wages for each of his cosigners. The Departmental Committee heard several examples of how high this practice could drive the cost of loans; in one case, a £5 loan with only one cosigner cost the borrower 40%, even without compensating the cosigner for the value of his time![6]

Informants agreed that the lending practices of joint-stock banks posed little difficulty for more substantial farmers who borrowed larger amounts, although they disagreed on how large a farm had to be to qualify as "large." Doran implied in the comment quoted above that farmers with a Poor Law valuation of £10 or more were well-served by the banks. A later report puts the cutoff at 200 acres (Banking Commission, 1926, p. 4). Land valuation per acre varied widely across Ireland, but most 200-acre farms would have a valuation well in excess of £10. Table 1 shows the importance of the credit problem whatever the relevant cutoff. The three counties represented in Table 1 consist of one of the wealthiest agricultural districts in the country (Meath) and two of the poorest areas of the congested districts (Mayo and Donegal). Even in Meath a considerable proportion of holdings were small and a considerable proportion of the rural population lived on small holdings; in western Ireland, small-

[6] George Russell told the Select Committee on Moneylending of a case where a farmer obtained a £5 loan from a bank. To get himself and his cosigner to the bank cost 3s. car fare, and 4s. for food and drink; in addition, the borrower had to provide "free days" of unpaid labor to the cosigner (Great Britain, 1898, Q2132–2134). As an active leader of the cooperative movement Russell might well have chosen a particularly favorable anecdote; still, no banker's representative denied the insistence on cosigners for small loans.

holders constituted large majorities of the agricultural population. While it is true that most agricultural land was concentrated in larger holdings, and most agricultural output resulted from larger farms, very large fractions of the rural population resided on holdings of the sort most likely to meet credit problems with formal banks.

The Departmental Committee's 1914 report, along with perhaps all discussions of rural credit in Ireland at the time, was a deeply polemical document. The Department in question was the Department of Agriculture and Technical Instruction (DATI), which had been formed in 1899.[7] This committee heard contradictory evidence on rural credit conditions. Bankers insisted that they stood prepared to make loans to small farmers at 5–6% interest, while smallholders complained of very high credit costs. The later 1926 Banking Commission reconciled the difference as we have implicitly above: the banks did indeed charge only 5 or 6%, but to contend with the information problems posed by the structure of banks, borrowers ended up paying additional costs that forced their credit costs much higher (Banking Commission, 1926, pp. 9–10). In its commentary on the Departmental Committee's report, one observer obviously sympathetic to bankers agreed that ". . . this class of business is not of a nature with which the banks can deal on commercial lines" (*Journal of the Institute of Bankers*, 1915, p. 146).[8]

The late 19th century was a time of increased interest in rural credit problems. The gradual move to full tenant purchase of land that culminated in the Wyndham Act of 1903 raised expectations about the future of Irish farming, expectations that could not be met by land ownership alone:

> When the all-absorbing question of land ownership is settled, there will remain to be dealt with the equally serious one of capitalising the newly-created landowners. It will hardly be contended that the conversion of rent into a reduced and terminable annuity will in itself bring prosperity and content to the Irish farmer (IAOS, 1902, p. 5).

For most Irish farmers a Land Acts Purchase meant reduced annual payments (the government mortgage payment was lower than their old rent) but sharply reduced ability to borrow on the strength of their holding's value. A farmer who purchased his holding under one of these acts was limited in the size of any second mortgage he wanted to place on

[7] Horace Plunkett, also the leader of the IAOS, directed the Department as its first vice president. Plunkett enjoyed considerable personal respect, but his status as a Protestant, a landlord, and a home ruler made his political position precarious. He was replaced by Thomas Russell as the head of DATI in 1907.

[8] Oldham (1915, p. 241) stresses the problem of information in his sympathetic review of the Departmental Committee's report.

the holding (Guinnane and Miller, 1992). The timing was unfortunate; the Departmental Committee argued that the capital requirements of farmers had increased in the period prior to World War I:

> A farmer undoubtedly now requires more working capital than he formerly did, if he is to utilize to the greatest advantage the scientific instruction in the best agricultural methods now fortunately available to a greater or less extent in all civilized countries (Great Britain, 1914, section 26).

In his report on tenant purchasers Bailey argued that lack of capital for stock and improvements kept many from realizing the full benefit of land ownership (Great Britain, 1903, p. 25). Doran gave a long list of credit needs in his testimony before the Departmental Committee, including the purchase of livestock, seeds, fertilizers, and farm implements; various repair and drainage projects; and the construction or improvement of dwellings and farm buildings (Great Britain, 1914, Q4758). One very frequently mentioned use of small loans was to purchase young pigs for fattening.

2. CREDIT COOPERATIVES IN GERMANY AND IRELAND

German cooperatives were also formed as responses to perceived failings in formal financial institutions. Hermann Schulze-Delitzsch and Friedrich Raiffeisen were largely responsible for the early German cooperative movement.[9] By 1861 there were 364 credit cooperatives founded on Schulze-Delitzsch principles, with nearly 49,000 members (Herrick and Ingalls, 1915, p. 267). Raiffeisen founded his first credit cooperative in 1864, along the lines of the Schulze-Delitzsch banks, but organizational differences became the source of more and more conflict between the Schulze-Delitzsch and Raiffeisen organizations, culminating eventually in the *Systemstreit* (dispute over organizational models) at the end of the 19th century. A third strand in the German cooperative movement, associated with Wilhelm Haas (1839–1913), is for our purposes largely an offshoot of the Raiffeisen movement. By the end of the 19th century Haas' Imperial Federation had admitted the majority of rural credit cooperative societies in Germany.

Advocates argued that credit cooperatives could operate where banks could not because cooperatives had distinct advantages over formal financial institutions for a certain class of borrowers. Smallholders lived in close proximity and knew each other well; a properly designed institution

[9] Several narratives recount the foundation of the German cooperative banking movement; we are only concerned with the main strands in its development. See, for example, Herrick and Ingalls (1915), U.S. Senate (1913a), or Faust (1977). Bolger (1977) and West (1986) contain good general discussions of Plunkett and the Irish cooperative movement.

could harness this information on borrowers where formal financial institutions could not. As Plunkett put it, credit cooperatives

> . . . perform the apparent miracle of giving solvency to a community composed almost entirely of insolvent individuals . . . Raiffeisen held, and our experience in Ireland has fully confirmed his opinion, that in the poorest communities there is a perfectly safe basis of security in the honesty and industry of its members. This security is not valuable to the ordinary commercial lender, such as the local joint-stock bank. Even if such lenders had the intimate knowledge possessed by the committee of one of these associations [credit co-operatives] as to the character and capacity of the borrower, they would not be able to satisfy themselves that the loan was required for a really productive purpose, nor would they be able to see that it was properly applied to the stipulated object (Plunkett, 1970, pp. 195–196).

Cooperatives used information by (1) the initial screening of members, (2) a detailed knowledge of both local production conditions and the applicant, (3) low-cost monitoring of the loan's use, and (4) the ability to identify borrowers who defaulted through their own malfeasance (and so to impose both economic and extraeconomic sanctions). Low-cost information permitted the cooperatives to dispense with practices that raised the cost of credit from banks. The cooperatives, for example, also required cosigners for loans, but these cosigners did not have to be substantial persons known to a bank. The cooperatives also made *long-term* loans, subject to recall but without any need to renew the loan at 3-month intervals. All branches of the German credit cooperative movement thrived. By 1909 there were over 14,500 rural credit cooperatives with some 1.4 million members, or about 5.6 rural cooperatives per 1000 rural Germans. The 17,000 credit cooperatives of all types existing in Germany in 1909 had 2.2 million members and 3.9 billion Marks in total assets. Table 2 outlines some important indicators for the rural cooperatives federated with the Haas organization, by far the largest.[10]

To maximize information on actual and potential members the Raiffeisen cooperatives in Germany were based on very small regions: in 1913, 80% of Raiffeisen credit cooperatives were located in towns or administrative districts of fewer than 3000 persons (Winkler, 1933, p. 65). German cooperatives worked hard to obtain local deposits from members and nonmembers alike. Most cooperatives were also affiliated with a

[10] Cooperatives data from Deutsche Bundesbank (1976, DI, Tables 1.07 and 1.08). Rural population of Germany for 1910, and defined as persons in places with fewer than 2000 people; source is Marschalk (1984, Tables 1.3 and 5.5). Some German credit cooperatives, especially those in the Raiffeisen organization, were closely allied with cooperative marketing and purchasing enterprises. The wisdom of such connections was a point of contention in the German cooperative movement. The IAOS in Ireland actively promoted non-credit cooperation, another point of similarity with the Raiffeisen system.

TABLE 2
Comparative Measures, German and Irish Agricultural Credit Cooperatives

Members of the Imperial Federation, Germany, 1910	
Total banks	12,797
Members per bank	95
Total saving deposits	82,953[a]
per bank	6,482
Total loans[b]	82,819[a]
per bank	6,471
Societies reporting to the Irish Agricultural Organization Society, 1910	
Total banks	237
Members per bank	81
Total saving deposits	25,077
per bank	105.8
Total loans	55,855
per bank	235.7

Source. For Germany, U.S. Senate (1913b: 133). For Ireland, Great Britain (1914; 128).
Note. All money figures in pounds sterling.
[a] Thousands.
[b] Current account plus loans for fixed duration.

regional organization that provided auditing and other services and with a "Central," a regional bank that accepted surplus deposits from local cooperatives and made loans to those needing more funds than they had on hand. The Raiffeisen federation insisted on several practices that were controversial. The most contentious issue was liability. Under the 1889 law, credit cooperatives could have limited liability. Unlimited liability meant that, should the cooperative fail and not be able to pay its debts out of assets and reserve funds, any creditor could sue any former member for an amount up to the total value of that member's wealth. Raiffeisen cooperatives could only have unlimited liability; their founder believed that only unlimited liability would give members the required incentives to monitor both the management and borrowers. The Haas federation admitted cooperatives with limited liability once that structure was legalized in 1889, and the Schulze-Delitzsch organization became increasingly composed of limited-liability cooperatives.

Credit Cooperatives in Ireland

The IAOS was established as an umbrella organization in 1894 under the presidency of Horace Plunkett and founded the first Irish credit cooperative in Doneraile, County Cork, the following year. The Doneraile cooperative was explicitly modeled on the Raiffeisen cooperatives at the suggestion of Henry Wolff, an authority on cooperatives (Smith-Gordon and Staples, 1917, p. 135; Bolger, 1977, p. 165). The cooperative credit movement in Ireland grew steadily in its first few years, as Table 3 shows. The credit cooperatives initially enjoyed considerable support from the government, from joint-stock banks, and from the IAOS itself. The CDB contributed to organizational expenses for cooperatives in congested areas and in 1898 extended loans to a maximum of £100 per cooperative (Smith-Gordon and Staples, 1917, p. 137). Many of the credit cooperatives were located in Congested Districts (65 in 1907) (Great Britain, 1908, Section 94). When DATI commenced operation in 1901 it extended a further total of £1350 in loans. By 1907 the loans to cooperatives from these two agencies totaled £18,785.

The credit cooperatives also enjoyed good relations with joint-stock banks. After some initial skepticism many credit cooperatives were able to secure loans (overdrafts) from local joint-stock banks. These loans were usually extended at 4% interest and were legally a loan from the bank to a wealthy individual who then deposited the money in the cooperative. As Table 3 shows, the combination of government loans and joint-stock bank overdrafts permitted many cooperatives to make loans with few or no deposits. The Irish credit cooperatives experienced no difficulty finding willing borrowers. Most cooperatives had virtually all of their capital extended as loans at any one time, in contrast to the perennial German problem of excess deposits.[11] The IAOS annual report for 1903 shows that in many cooperatives the number of loans granted after only 2 or 3 years of the cooperative's existence equaled the total number of members! The average loan in that year for most cooperatives was between £2 and £10 (IAOS, 1904, Appendix III(c)).

Ireland's cooperators were at first quite pleased with the development of their credit cooperatives; Plunkett, for example, issued a blanket endorsement of Raiffeisen-style cooperatives in his testimony before the Select Committee on Moneylending (1898) (Great Britain, 1898, Q1973). Yet at about the time of the conflict with DATI the IAOS's annual reports begin to contain notes of concern and eventually displeasure. In 1909 the IAOS reported that "where societies have proved apathetic" it had written to the cooperative's leadership, suggesting that business be wound-up.

[11] Excess deposits were at least one reason for the formation of Centrals in Germany. German sources frequently refer to the supply of deposits outstripping local demand for loans; one cooperative, for example, reduced its deposit interest rates in 1904 because of this problem (Ried, 1977, p. 114). One study of cooperatives in Baden notes that their name was "Savings and Loan Association" but that in practice they were more savings associations than loan associations (Klimmer, 1906, p. 42).

TABLE 3
Quantitative Dimensions of Irish Credit Cooperatives, 1895–1911

Year	No. of cooperatives[a]	% Cooperatives filing an annual report[b]	Total membership	Deposits as % total capital	% Cooperatives with any deposits	% Capital provided by the state[c]
1895	2	100.00	71	NA	NA	NA
1896	3	100.00	138	NA	NA	NA
1897	4	75.00	170	NA	NA	NA
1898	38	57.89	1866	NA	NA	23.39
1899	61	68.85	2481	NA	NA	34.71
1900	73	64.38	3117	NA	NA	38.22
1901	101	64.36	4265	NA	NA	47.46
1902	145	67.59	5597	NA	NA	57.93
1903	201	63.18	7917	NA	NA	60.16
1904	200	79.00	11257	NA	NA	48.71
1905	232	83.19	13035	33.07	52.85	41.15
1906	246	81.30	14991	36.02	51.00	33.03
1907	261	72.03	14875	35.10	57.98	38.56
1908	268	70.52	17403	38.14	56.08	34.25
1909	234	79.49	18442	41.95	58.60	27.80
1910	237	72.57	19190	44.87	60.47	25.14
1911	236	69.07	19505	48.25	60.12	23.42

Source. Great Britain (1914, 128).
[a] From the annual report of the IAOS.
[b] Reports filed with the IAOS.
[c] Total of outstanding loans from the Department of Agriculture and the Congested Districts Board.

The IAOS also advised DATI and the CDB to call in outstanding loans from these cooperatives (IAOS, 1909, p. 11). In 1914 the report, with an air of resignation, states that the IAOS would henceforth concentrate on improving existing credit cooperatives (rather than starting new ones) and calls for other forms of cooperatives to begin extending loans (IAOS, 1914, pp. 18–19). The 1915 IAOS report notes that some credit cooperatives would fold upon repaying their DATI or CDB loans and argued that this was desirable, these cooperatives "having no real life in themselves" (IAOS, 1915, p. 17). Several cooperatives quickly collapsed when the government withdrew all funds from credit cooperatives in 1915. During the War the remaining cooperatives experienced an unexpected but short-lived renaissance, but peace brought renewed decline. By 1929 only 30 of the old Raiffeisen credit cooperatives still existed, and, of these, 10 had either no deposits or total deposits of less than £50 (Plunkett Foundation, 1931, p. 288).

After the partition of Ireland several Free State bodies argued that increased government support might revive the credit cooperatives. The Banking Commission of 1926 suggested a central cooperative bank through which all local cooperatives would have to funnel any excess funds and which could make loans to local cooperatives lacking sufficient deposits (Banking Commission, 1926, p. 12). The Agricultural Credit Act of 1927 envisaged the Agricultural Credit Corporation as a provider of loan capital and central clearinghouse for agricultural credit cooperatives. The model for this enterprise was, at least indirectly, the Prussian State Cooperative Bank, an entity formed in 1895 to function as a central bank for all Prussian credit cooperatives that wished to avail themselves of its services (Pohl, 1982, p. 342). The 1938 Banking Inquiry argued to the contrary that no positive governmental scheme would be able to foster the development of credit cooperatives in Ireland and that there was, in fact, no need for such institutions: "The facilities available for agricultural credit from non-cooperative sources are in our opinion such that the absence of system of cooperative credit cannot in any case be regarded as a serious handicap to Irish farming" (Banking Inquiry, 1938, Section 397). Credit cooperatives virtually passed from the scene, in contrast to other, ever-vigorous sections of the Irish cooperative movement, such as the creameries: in 1926 there were 400 cooperative creameries in the Irish Free State alone (Bolger, 1977, p. 215).

3. PROBLEMS IN THE IRISH CREDIT COOPERATIVES

Ireland's credit cooperatives did make loans and in a few isolated instances thrived. Yet the underlying differences between the Raiffeisen cooperatives in Germany and their transplants in Ireland were apparent very early on. The majority of German credit cooperatives were self-sufficient in capital, making them ongoing institutions capable of surviving without government assistance. The Irish cooperatives, on the other hand, functioned as little more than relenders of funds provided by banks or the State. The German institutions were in robust health until the hyperinflation following the First World War, while the Irish credit cooperatives died a slow death from neglect. We consider the problems afflicting an Irish Raiffeisen banks under three headings: legal and institutional environment, capital sources, and difficulties caused by problems of enforcement.

Legal and Institutional Problems

The IAOS complained that the legal environment posed serious problems for Irish credit cooperatives. Registered as "specially authorized societies" under the Friendly Societies Act (1896), no Irish cooperative could have as deposits a sum greater than 2/3 of its total outstanding loans; nor could it accept deposits from nonmembers. That is, self-sufficiency in capital was illegal, and cooperatives could not accept deposits from people willing to help but unwilling to accept the responsibility of membership in an unlimited liability cooperative. The Societies Borrowing Powers Act (1898) enabled cooperatives to borrow from nonmembers, but did not remove the 2/3 rule. The 2/3 rule was at any rate ignored; "this restriction, which is contrary to all foreign co-operative practice, has not, in fact, been observed" (Plunkett Foundation, 1931, p. 21). More generally, IAOS leadership complained about the lack of special legislation for cooperatives in general, but these complaints are difficult to take seriously. Ireland's cooperative creameries worked well without any special enabling laws, and the IAOS seems to have ignored the fact that Germany had no special laws for cooperatives until 1889.[12]

Another institutional problem was self-inflicted. The IAOS adhered closely to the Raiffeisen system as practiced in Germany. As late as 1910 the IAOS was unwilling to contemplate the possibility that the Raiffeisen system was unworkable in Ireland: "The adaptation of the system to Irish conditions requires no defence" (IAOS, 1910, p. 11). Yet unlimited liability in particular—a controversial feature of agricultural credit cooperatives in Germany—seems to have discouraged more substantial people from joining. The one limited liability credit cooperative in Ireland, at Ballindaggin (Wexford), was quite successful. Many of the Departmental Committee's informants advocated the establishment of limited-liability cooperatives. The Ballindaggin cooperative's secretary told the Departmental Committee that banks preferred to lend to *limited*-liability co-

[12] The North German Confederation had a cooperative law as of 1867, but this excluded large parts of the later German *Reich*. Prior to this most German cooperatives were simply "permitted associations" and sometimes encountered difficulties acting as corporate bodies (U.S. Senate, 1913a, p. 279).

operatives, since the presence of wealthy members guaranteed the overdraft more effectively (Great Britain, 1914, Section 340). Some German scholars noted that in regions of great variation in farm size, such as Saxony or the eastern Prussian provinces, unlimited liability was simply unworkable; the liability undertaken by a wealthy member would dwarf that of his neighbors, meaning that the wealthy person bore, as a matter of practice, all the liability for the cooperative (Grabein, 1908, p. 13, note 1).[13] No less an authority than the President of the Prussian Central Cooperative Bank advised that unlimited liability was preferable, but "when, however, persons whose co-operation is necessary or desirable, cannot be induced to join on the basis of unlimited liability, the principle of limited liability should be adopted all around . . ." (Montgomery, 1906, p. 20).

Sources of Capital

German credit cooperatives relied on three sources for their loan capital: deposits, loans from joint-stock banks or their Central, and government loans.[14] The Irish cooperatives relied on the same three sources, but in very different combinations. Table 2 provides summary statistics on the Irish credit cooperatives and on some of their German counterparts, while Table 3 traces aspects of the Irish cooperatives' balance sheets over time. Deposits were never the major share of loan capital in Irish credit cooperatives. A majority of Irish credit cooperatives had no deposits at all. The figures reported in Table 3 if anything understate the problem: in 1911, 14 of the 98 cooperatives holding any deposits accounted for over half of all deposits (Great Britain, 1914, Section 367). The lack of deposits can hardly be traced to a lack of savings in the small communities in which the cooperatives operated. Table 4 shows the growth in deposit accounts in Ireland and in three selected counties for the Post Office Savings Bank.[15] Post Office Savings accounts were very popular in the poor western counties such as Mayo and Donegal—the same sort of place where smallholders were most prevalent—and so the need for small loans greatest. The amounts on deposit, while not large, were such that they

[13] The Raiffeisen commitment to unlimited liability was as much ideological as practical; see Buchrucher (1905). Banerjee *et al.* (Forthcoming) study the optimal design of a credit cooperative, including the choice of liability structure.

[14] The relation between the German cooperatives and the several German governments is too complicated to trace in detail here. After initial opposition, most German governments supported the cooperative movement with loan capital, organizational expenses, and some other forms of support. Many cooperative leaders remained wary of state involvement, however. See Busche (1963).

[15] Deposits in joint-stock banks were much larger; in 1910 these institutions held nearly £55 million in deposits, while the Trustee Savings Banks and the Post Office Savings Bank totalled £14 million (Banking Inquiry, 1938, p. 9).

TABLE 4
Post Office Savings Banks in Ireland and Selected Counties, 1881 and 1912

	1881		1912	
	Average deposit per account	Accounts per 100 persons	Average deposit per account	Accounts per 100 persons
Ireland	17.7	1.9	20.0	14.6
Selected County				
Mayo	29.1	0.7	36.4	7.4
Donegal	26.0	0.8	33.8	7.2
Meath	19.4	1.1	19.0	9.2

Sources. Post Office Savings Bank from (Great Britain, 1914, Appendix 7) Censuses of Ireland, 1881 and 1911, as reported in Vaughan and Fitzpatrick (1978, Tables 3 and 6).

Notes. All money values in £ sterling. Population for 1912 taken as identical to 1911 population. Post Office data refer to accounts as of December 31st of the year.

could have amply supplied a credit cooperative had that money been made available to it. Several remote Post Office Savings Banks had deposits in excess of £20,000 in 1912 (Great Britain, 1914, Section 112).

The Post Office Savings Bank accounts paid 2.5% interest on a risk-free deposit (the funds were invested directly in British government securities); deposits and withdrawals could be made in any amount; and cooperatives could not be any more convenient than the Post Office. The problem of the Post Office Savings Bank was noted by one influential student of cooperatives, Lionel Smith-Gordon:

> The competition of the Post Office Savings Bank, combined with the habitual distrust of the Irish farmer for any financial institution which has not Government backing, has made it extremely difficult for most of these societies [cooperatives] to obtain deposits. As a consequence the "thrift" which was so essential a feature in the German model has been rather lost sight of in Ireland, and the agricultural banks have tended to become indeed "credit societies" rather than true banks.[16]

Guinnane (1991) reports some calculations designed to illustrate this point more precisely. The calculations estimate the interest rate a cooperative would have to pay to make a saver indifferent between placing his funds in the cooperative and placing those funds in the Post Office Savings Bank. Even a risk-neutral saver would require an interest rate of 8.3%

[16] *Economic Review* September 1917; quoted in Darling (1922, p. 34). See also Smith-Gordon and Staples (1917, p. 136). The IAOS noted that cooperatives were most successful in obtaining deposits when they were fairly remote from other financial institutions (IAOS, 1906, p. 91).

per annum to compensate him for a (perceived) 10% chance of losing half his deposit in a cooperative.[17]

The Departmental Committee claimed that Germany had no system of Post Office Savings Banks with which the Raiffeisen cooperatives had to contend (Great Britain, 1914, Section 362). This oversimplifies the story; there were many public savings banks in Germany, of various descriptions depending on the locale. Most of these institutions had a public guarantee. But the German *Sparkassen* differed from the Irish Post Office Savings Bank in two important ways. First, although the German savings banks were started in the early 19th century, their widespread extension dates to the same period as the development of credit cooperatives. The Post Office Banks in Ireland, on the other hand, were established in Ireland in 1861, over 30 years before any Irish credit cooperative. The German cooperatives did not have to entice savers away from an established institution and at least at the turn of the century paid only a small premium to compensate savers for the lack of a guarantee. In 1900, the average interest deposit paid by Sparkassen was 3.3%, by Raiffeisen credit cooperatives, 3.58 percent (Grabein, 1908, p. 59). Second, the Sparkassen remained primarily urban institutions. Most rural Germans lived closer to a credit cooperative than to any other savings institution (Söchting, 1906, p. 212; Montgomery, 1906, p. 13); the small number of Sparkassen in Prussia hints at their relative inconvenience. Second, some Germans argued that the Sparkassen, by default or design, were primarily interested in deposits from merchants and the middle class and thus posed little competition for the German credit cooperatives.[18] One study claims that before the creation of the cooperatives many rural people kept their savings in cash, at home (Grabein, 1908, pp. 54–55).

The effect on Irish cooperatives of this inability to attract deposits was more subtle than a lack of loan capital. Most Irish cooperatives were able to obtain state loans, overdrafts from joint-stock banks, or both. The lack of deposits in Irish cooperatives shows a lack of demand for their services as *thrift* institutions: an individual had a direct economic interest in an Irish cooperative only to the extent he wished to borrow. The German cooperatives, on the other hand, attracted members who wanted a place to save their money and who would take an active interest in monitoring

[17] In his testimony before the Departmental Committee, Dr. H. S. Morrison of the County Londonderry Committee of Agriculture made a similar point (Great Britain, 1914, Q14292–14299). Robert Wallace, the exchairman of a credit cooperative in County Leitrim put the issue more succinctly: "The people don't seem to have confidence in local institutions, or their neighbors. They would prefer to go to the Post Office" (Great Britain, 1914, Q11850).

[18] Will (1942, p. 100) identifies 517 *Sparkassen* in Prussia in 1865, about 1000 in 1875, and about 1800 in 1913. The suitability of Sparkassen for small savers was part of a distinct debate in Germany. Certainly some state savings institutions went to great efforts to serve small savers.

the way in which those funds were lent. Although some IAOS officials worried about the lack of deposits, they never seemed to appreciate how lack of local faith made their credit cooperatives a very different institution from those operating in Germany. In his testimony before the Departmental Committee, Mr. Swain, an IAOS auditor, only grudgingly admitted that increased deposits would be good for the cooperatives; he insisted on the false distinction that ". . . these banks were started to lend money to supply credit for reproductive purposes, and not as a means of saving money" (Great Britain, 1914, Q4640). The Irish credit cooperatives were essentially relending schemes, institutions which have worked, but which rely on very different incentives than imagined by Raiffeisen (Besley and Coate, 1992).

Management and Monitoring

All these weaknesses resulted in cooperatives that were poorly run. Substantial numbers of Irish cooperatives never even filed their annual reports, as Table 3 shows. Monitoring and recordkeeping at the cooperative level were not much better. B. T. Mennell, an inspector for the Department of Agriculture and Technical Instruction, reported that cooperatives' books were often in "a very muddled condition." In one instance, Mennell was unable to determine the value of loans outstanding because the secretary for that cooperative never bothered to cancel the promissory notes for repaid loans (Great Britain, 1914, Q1471).[19] The weakness in monitoring and leadership is reflected in a widespread practice that amounts to a major abuse of the Raiffeisen system. The IAOS admitted that loans were often given and renewed without definite purpose (Great Britain, 1914, Section 481). Treating loans this way suggested to outsiders that cooperatives were dominated by a small cabal who controlled all access to credit, making loans very difficult to monitor, since the loan's intended use was unclear.

Both the IAOS and its critics worried that Irish villages lacked individuals with sufficient business experience and knowledge to staff the leadership of the cooperatives. Doran disapproved of the cooperatives' entire structure on the grounds that a committee of locals "cannot possibly have the qualifications necessary to successfully conduct banking transactions on a scale that could be productive of any real good" (Great Britain, 1914, Q4813). Doran drew a distinction between knowledge of local conditions and persons—something he conceded local people had—and the education required to handle accounts, etc. In 1902 the IAOS annual report noted that the same personnel remained in charge of the management committees for long periods. This low turnover showed

[19] Given his employer, Mennell's report might well have been politically inspired. Note, however, that the IAOS raised essentially the same complaint!

". . . that the work which they engaged to do was undertaken in no momentary fit of enthusiasm," but the IAOS conceded that retention of the same managers year after year afforded little opportunity to train new leaders (IAOS, 1902, p. 13). Two years later the IAOS took a much dimmer view of the low turnover in managers, arguing that after some years in office the management committee became lax on important issues such as prompt repayment of loans (IAOS, 1904, p. 19). One informant told the IAOS that after several years of operation some management committees did not have very good attendance at meetings (Great Britain, 1914, Q4517–4521).[20] In its obituary the Plunkett Foundation drew attention to the leadership problem:

> The conclusion seems unavoidable that Ireland has not produced a large class of persons capable of and willing to run a local credit society with success. It is noteworthy that priests and schoolmasters—classes possessing comparative leisure, education, and detachment, to whom the movement in other countries looks so largely for its local leaders—have not come forward in any considerable numbers. Where they have, it has usually meant a successful society (Plunkett Foundation, 1931, p. 385).

The Church hierarchy's suspicion of the cooperative movement may have denied Ireland's cooperatives some of the leadership that had played an important role in Germany (Bolger, 1977, p. 95).

Much of the management problem probably stemmed from two problems already noted above: the unlimited-liability structure, which discouraged wealthy members, and the competition from alternative savings institutions, which reduced active participation from those primarily interested in fostering an outlet for their savings. The IAOS' own failings as an umbrella organization also contributed to the managerial failings. The Irish movement never developed either Centrals or the auditing federations to which nearly every German agricultural credit cooperative belonged. As noted above, Ireland's joint-stock banks were happy to provide loans to (and in some cases accept deposits from) Irish cooperatives; the lack of a Central was not serious. The Schulze-Delitzsch credit cooperatives in Germany, as a matter of fact, simply used a commercial bank as their Central (Great Britain, 1914, Section 395). The IAOS by its own admission was not able to provide much auditing assistance to credit cooperatives, and this was a much more serious failing. The organization was chronically strapped for funds and grew more and more to focus on elements of the cooperative movement, primarily creameries, whose turnover was able to support fee-generating activities such as audits

[20] Management committees in Germany also experienced very low levels of turnover; meetings of these committees in Germany, on the other hand, enjoyed nearly perfect attendance (Guinnane, 1992).

(Plunkett Foundation, 1931, p. 12). Germany's auditing federations satisfied the legal requirement that each cooperative have an independent audit every 2 years. But they were much more active than the law required; most cooperatives were audited every year, and the auditor's comments corrected bookkeeping errors, alerted the cooperative to unwise practices, and provided the cooperative's treasurer a clear reason to stay on his toes (Henning, 1990; Guinnane, 1992). External audits, according to one German observer, reassured depositors and those otherwise reluctant to join an unlimited-liability association (Klimmer, 1906, pp. 68–69).[21] To the extent the IAOS was right about the lack of homegrown business talent, such services would seem even more important in Ireland than in Germany.

Another very persistent claim is more difficult to evaluate but cannot be ignored. Cooperatives in Germany worked where joint-stock banks could not, German cooperators argued, because of low-cost information and because cooperatives possessed a range of enforcement mechanisms unavailable to banks. Many comments suggest that in Ireland information carried with it attitudes that obviated its usefulness. Some claimed that Irish people did not want to apply for loans with a cooperative or to deposit their money in cooperatives because doing so meant the disclosure of their financial position to the entire community (e.g., Great Britain, 1914, Q4883, Section 379). Deposits in credit cooperatives would make a person a mark for those wanting loans and cosigners for loans. The Banking Inquiry of 1938 cited this disclosure problem in its pronouncement that credit cooperatives in Ireland would not work (Banking Inquiry, 1938, Section 397). Montgomery notes a very different attitude in Germany: loan applicants were less bashful about disclosing their financial condition to a committee composed of their neighbors than they would have been with strangers such as bank officials (Montgomery, 1906, p. 10).

Enforcement mechanisms did not work well, either. Crucial to a cooperative's operation was the implicit threat that an individual who defaulted on a loan or otherwise misbehaved would be penalized by his neighbors. The German cooperative records very clearly record the ejectment of members who failed to satisfy terms they had undertaken (Guinnane, 1992). The IAOS itself did not view such actions as likely in Ireland:

> It is difficult in a country with no business traditions, and where the natural kindliness of the people renders them easy-going with regard to mutual obligations, to make them realise the necessity of adhering resolutely to the rules, so that no mistaken kindness to unthrifty borrowers should be allowed to endanger the interests of the Society and of other members (IAOS, 1902, pp. 13–14).

[21] The IAOS did establish a Central Cooperative Credit society in 1913, but this organization made few loans and received little in deposits from local cooperatives (IAOS, 1913, 22–23).

Timothy O'Herlihy, the former secretary of a cooperative in County Cork, advocated *increasing* the area covered by each cooperative on the grounds that a borrower's neighbors would be unwilling to force him to repay. O'Herlihy saw the need for outsiders who could bear the blame for seemingly harsh decisions such as recalling loans (Great Britain, 1914, Q3971–3976). The later Banking Inquiry (1938) agreed: "The [management] committee will be slow to assume responsibility for refusing loans to their neighbors" (Banking Inquiry, 1938, Section 397). The enforcement problem faced by credit cooperatives parallels the reason given by joint-stock banks for refusing to make mortgage loans. Rural Irish people did not, in the words of the 1926 Banking Commission, give "full recognition of the justice of the debt so incurred," and thus resisted efforts to force repayment of loans (Banking Commission, 1926, p. 22).

All of which is to say that the Irish cooperatives could not exercise much of their advantage over banks: perhaps they had superior information on borrowers, but when close acquaintance means this type of sympathy, the information does not confer advantages to a lending institution. The Irish cooperatives' capital sources further undermined the enforcement problem. A borrower who defaulted did not endanger his *neighbor's* savings, he reduced the cooperative's ability to repay a government of joint-stock bank loan. And while this action might threaten the cooperative's health and thus the credit facilities available to actual and potential members, it would not be viewed as directly threatening one's neighbor as it would be if the loan was a neighbor's savings. That is, so long as Irish credit cooperatives were largely conduits for the bundling of government and later bank loans, which they most decidedly were, borrowers would not view the money they invested as truly belonging to their community.

Were the Credit Cooperatives Even Needed?

The Banking Inquiry of 1934–1938 briefly discusses the failure of credit cooperatives and recommends no further state support on the grounds that cooperatives were not needed. This view—also voiced by some bankers to the Departmental Committee in 1914—implies that Irish credit cooperatives failed simply because there was no demand for their services. This claim is very difficult to square with the evidence given by the long list of witnesses before both the Royal Commission on Congestion and the Departmental Committee on Credit, most of whom argued that smallholders and laborers faced a choice between expensive shop credit or expensive bank credit. The observed behavior of both bankers and others whose activities were closely tied to credit issues also contradicts the Banking Inquiry's argument. Banks seemed happy to extend overdrafts to credit cooperatives; Russell, in fact, told the Royal Commission on Congestion that "Joint Stock Banks . . . are not at all unfriendly to the credit societies, regarding them rather as useful auxiliaries, than as rivals" (Great Britain, 1907, Q14138). Why would banks have aided the cooperatives if this had not been a simple way to *extend* their own business? The involvement of merchants and others in the formation of credit cooperatives also belies the argument that they were not needed. The IAOS noted the local merchants had often played a role of starting credit cooperatives, even though merchants had usually opposed other forms of cooperatives such as creameries or agricultural societies (IAOS, 1906, p. 10). Their support reflects recognition that local smallholders with better access to capital would be more prosperous and so better positioned to make good customers.

By suggesting that the credit cooperatives failed simply because they were not necessary, the Banking Inquiry reflected a misunderstanding of the Raiffeisen concept, one perhaps shared even by the leaders of the IAOS. Raiffeisen's credit cooperatives in Germany were *founded* to provide low-cost credit, but *thrived* because a variety of people in a village—those with infrequent credit needs, those with substantial savings to invest, perhaps those who merely thought they could profit from their neighbor's economic success—were willing to take an active role in the institution's management. Ireland's credit cooperatives lacked the participation of these crucial people, for reasons explained above; that the institution failed says little about whether rural credit needs were being met in some other way.

4. CONCLUSIONS AND IMPLICATIONS

The German agricultural credit cooperatives became extremely important financial institutions by the First World War. Their Irish counterparts, on the other hand, never developed beyond group-lending organizations subsisting on state loans and overdrafts granted by local banks. Cooperatives *were* successful in Ireland in another rural activity, dairying. The Irish cooperative creamery movement's success if anything underscores the problems faced by the credit cooperatives. Plunkett wisely chose to organize cooperative creameries first. In so doing he faced some problems of suspicion and mistrust of cooperative methods, but he did not face the nearly universal competition from an already existing institution that the credit cooperatives faced in the form of the Post Office Savings Banks. Creameries were a largely new activity in Ireland; the problem was not to get farmers to switch from one institution to another, but to switch from home production of butter to creameries.[22] By 1913 the cooperative

[22] See his discussion of the creameries in Plunkett (1970, pp. 187–190) and O'Grada (1977). The Plunkett Foundation's survey emphasizes hostility to the cooperative creameries from private creameries and other sources and claims the credit cooperatives had no such competition; but in so doing it misses the fact that the Post Office Savings Banks were competitors for savings.

creameries accounted for 80% of all turnover in the Irish cooperative movement.

The difficulty of transplanting the Raiffeisen creedit cooperative to Ireland illustrates two important points about the formation and development of institutions. The first point is that institutions are more than a formal set of rules; since both their membership and those who were not members but used their services depended on the local environment, the cooperatives in Ireland took on a very different form than they had in Germany. Raiffeisen and other German advocates of credit cooperatives argued that these small institutions could operate in ways not possible for larger, more formal financial institutions because cooperative members possessed information on borrowers and the ability to impose sanctions on borrowers that were not available to banks. Plunkett and his colleagues in the IAOS implicitly accepted this analysis. Yet the IAOS missed a subtle point: Raiffeisen-style credit cooperatives operated by capitalizing on superior information, but to ensure *use* of that information their German variants had erected a complex mechanism that encouraged monitoring by both cooperative members and federations of cooperatives. And monitoring in Germany was backed by the implicit threat that miscreants would be ejected from the cooperative. If the Irish environment discouraged monitoring and obviated enforcement mechanisms, then the cooperative's informational advantages could not be brought to bear on the problem of rural credit. The IAOS might have succeeded in translating rules from German to English, but it did not appreciate—at least until too late—that the form the cooperative would take in the Irish economic and social environment was not necessarily that which it had taken in rural Germany.

The story of Ireland's credit cooperatives also illustrates the role of historical timing in the development of institutions. The German cooperatives were formed at a time of poorly developed rural savings institutions in general; they had the opportunity to step into an empty niche and in so doing became valued institutions for borrowers *and* savers. The Irish cooperatives, on the other hand, were not formed until a time when Ireland's extremely well-developed institutions for rural savers had left no place for an untried, unknown savings institution. Ireland's cooperativeness had no sheltered period in which to develop the local management skills, auditing assistance, and hard-nosed attitudes required for such an institution to succeed. If Raiffeisen had been an Irishman, or if the Post Office Savings Banks had not been established until the 20th century, the situation in Ireland might have been different.

REFERENCES

Banerjee, A. V., Besley, T. J., and Guinnane, T. W. "Thy Neighbor's Keeper: The Design of a Credit Cooperative, with Theory and a Test." *Quarterly Journal of Economics,* (Forthcoming). No. 160, Research Program in Development Studies, Princeton University.

Banking Commission (Irish Free State) (1926), *Banking Commission: 2nd, 3rd, and 4th Interim Reports.* Dublin: The Stationary Office.

Banking Inquiry (Irish Free State) (1938), *Commission of Inquiry into Banking, Currency and Credit Reports.* Dublin: The Stationary Office.

Besley, T. J., and Coate, S. (1992), "Group Lending, Repayment Incentives, and Social Collateral." Working paper, Department of Economics, Princeton University.

Bolger, P. (1977), *The Irish Co-operative Movement: Its History and Development.* Institute of Public Administration, Dublin.

Buchrucher, A. (1905), *Unbeschränkte oder beschränkte Haftpflicht: Welche Art der Rechtsform ist für ländliche Kreditgenossenchaften die geeignetste?* Raiffeisen-Druckerei, Neuwied.

Busche, M. (1963), *Oeffentliche Förderung deutscher Genossenschaften vor 1914.* Duncker and Humbolt, Berlin.

Darling, M. L. (1922), *Some Aspects of Co-operation in Germany, Italy and Ireland.* Lahore: Superintendent of Government Printing.

Deutsche Bundesbank (1976), *Deutsches Geld-und Bankwesen in Zahlen 1876–1975.* Fritz Knapp, Frankfurt.

Faust, H. (1977), *Geschichte der Genossenschaftsbewegung.* Fritz Knapp, Frankfurt: a.M. 3rd ed.

Grabein, M. (1908), *Wirtschaftliche und soziale Bedeutung der ländlichen Genossenschaften in Deutschland.* H. Laupp, Tübingen.

Great Britain (1898), "Report of the Select Committee on Moneylending." Evidence. House of Commons sessional papers, Vol. 10.

Great Britain (1903), "Report of an Inquiry into the Present Conditions of Tenant Purchasers under the Land Purchase Acts." House of Commons sessional papers, Vol. 57.

Great Britain (1907), "Royal Commission on Congestion in Ireland: Appendix to the Third Report. Minutes of Evidence." House of Commons sessional papers, Vol. 35.

Great Britain (1908), "Royal Commission on Congestion in Ireland: Final Report." House of Commons sessional papers, Vol. 42.

Great Britain (1914), "Report of the Departmental Committee on Agricultural Credit in Ireland." House of Commons sessional papers, Vol. 13.

Guinnane, T. W. (1991), "Cooperative Agricultural Credit in Germany and Ireland, 1870–1914." Working paper.

Guinnane, T. W. (1992), "What Do Cooperatives Really Do? Evidence from Micro-Studies of Nineteenth-Century German Credit Cooperatives." Working paper.

Guinnane, T. W., and R. I. Miller (1992), "The Limits to Land Reform: Land and Credit in Nineteenth-Century Ireland." Working paper.

Henning, F-W. (1990), "Die externe Unternehmungsprüfung in Deutschland vom 16. Jahrhundert bis zum Jahre 1931." *Vierteljahrschrift für Sozial- und Wirtschaftsgeschichte* 77(1), 1–28.

Herrick, M. T., and Ingalls, R. (1915), *Rural Credits: Land and Cooperative.* Appleton, New York.

Huppi, M., and Feder, G. (1990), "The Role of Groups and Credit Cooperatives in Rural Lending." *World Bank Observer* 5(2), 187–204.

IAOS (1902–1931), "Annual Reports of the Irish Agricultural Organization Society, Limited," for various years.

Kennedy, L. (1977), "A Sceptical View on the Reincarnation of the Irish 'Gombeenman.'" *Economic and Social Review* 8(3), 213–222.

Klimmer, W. (1906), *Die Entwicklung des landwirtschaftlichen Genossenschaftswesens im Grossherzogtum Baden.* Haas and Wittke, Dusseldorf.

Marschalk, P. (1984), *Bevölkerungsgeschichte Deutschlands im 19. und 20. Jahrhundert.* Suhrkamp, Frankfurt.

Montgomery, H. de F. (1906), *Notes on Agricultural Co-operation and Credit in Germany.* Thom, Dublin.

O'Grada, C. (1977), "The Beginnings of the Irish Creamery System, 1880–1914." *Economic History Review* 2nd series XXX(2) (May 1977), 284–305.

Oldham, C. H. (1915), "Agricultural Credit in Ireland." *Journal of the Institute of Bankers in Ireland* **XVII**, 238–249.

Plunkett, H. (1970), *Ireland in the New Century.* Port Washington, NY: Kennikat Press reprint of original 1904 edition.

Plunkett Foundation (1931), *Agricultural Cooperation in Ireland: A Survey by the Horace Plunkett Foundation.* London: Routledge.

Pohl, M. (1982), "Festigung und Ausdehnung des deutschen Bankwesens zwischen 1870 und 1914." In Ernst Klein (Ed.), *Deutsche Bankgeschichte,* Band 2. Fritz Knapp, Frankfurt.

Ried (1977), *Festschrift Raiffeisenbank Ried eG.* Ried.

Russell, G. W. (AE) (1912), *Co-operation and Nationality: A Guide for Rural Reformers from This to the Next Generation.* Maunsel, Dublin.

Smith-Gordon, L., and Staples, L. C. (1917), *Rural Reconstruction in Ireland.* P. S. King, London.

Söchting, E. (1906), *Das landwirtschaftliche Genossenschaftswesen in der Provinz Sachsen.* Halle.

Stiglitz, J., and Weiss, A. (1981), "Credit Rationing with Imperfect Information." *American Economic Review* **71**(3), 393–410.

U.S. Senate (1913a), *Agricultural Credit and Cooperation in Germany.* U.S. Senate Document Number 17, 63rd Congress, 1st Session.

U.S. Senate (1913b), *Agricultural Cooperation and Rural Credit in Europe.* Senate Document Number 214, 63rd Congress, 1st Session.

Vaughan, W. E., and Fitzpatrick, A. J., Eds. (1978), *Irish Historical Statistics: Population, 1821–1971.* Royal Irish Academy, Dublin.

West, T. (1986), *Horace Plunkett: Co-operation and Politics, An Irish Biography.* Catholic University Press, Washington, DC.

Will, H. (1942), *Die deutschen Sparkassen.* Kohlhammer, Stuttgart/Berlin.

Winkler, H. (1933), "Die landwirtschaftlichen Kreditgenossenschaften und die Grundsätze Raiffeisens." *Jahrbuch für Nationalökonomie und Statistik.* **138,** Band III; Band 83 Erstes Hefte, 59–76.