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Financial Intermediaries and the Design of Loan Contracts in the Australasian Pastoral Sector Before World War Two

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Abstract

This paper examines the pooling and separating contracts designed by Australasian financial intermediaries in the late nineteenth and early twentieth centuries. We show that after an initial screening process these agents altered interest rates and collateral requirements to separate out risk types to reveal additional information on borrowers. In multi-period contracts agents opted for flexible contract structures which permitted changes in individual or community-wide circumstances.

Geographic remoteness and unfamiliarity with different geological and climatic conditions were the predominant challenges for Australasian farmers. Local growing conditions were quite different from those in Britain where severe and prolonged droughts were unknown. International remoteness derived from Australasia's geographical location and the initial absence of regular shipping services. Local isolation was a reflection of the undeveloped infrastructure and, in Australia's case, the vast geographic size of the country. As agricultural settlement expanded inwards through Queensland, Victoria, and New South Wales in the 1870s and 1880s distances increased and farms became more remote from natural sea and river communications.[1] Remoteness from other farming nations emphasised the difficulties of keeping up to date with best practice while local isolation between farms and farming communities slowed the development and diffusion of core knowledge of preferred techniques suitable for Australasian conditions.

Australasian farmers required financial support for a multitude of purposes including land improvement, freehold purchase, livestock acquisition, the development of permanent stations, export credits, new technology, and the impact of cyclical fluctuations in the industry. The extent of farmer reliance on institutional support is difficult to calculate accurately although Butlin's estimate that only one-third of capital formation in the sector was internally generated in 1874 provides some indication of the demand for outside finds.[2] Finance was supplied by numerous groups most particularly banks and specialist pastoral agents.

The characteristics of Australasian farming had implications for how financial intermediaries conducted business and particularly how they designed loan contracts. In this paper we investigate the process by which financial intermediaries in Australasia designed loan contracts after organising farmers into risk groups, and the manner in which information costs, borrower actions, lender and borrower relations, and changes in individual and community-wide circumstances, influence contract design.The time period covered here is motivated by the fact that, as Butlin notes, from the late nineteenth century there were two major suppliers of investible funds to the pastoral sector: commercial banks and specialised pastoral agencies.[3] While there have been several works examining the role of banks in Australian economic development, there has been less attention directed to the role of pastoral agents.[4] And yet several of these firms were to become some of the largest private sector organisations in the early twentieth century.The paper adds to our understanding of the development of the activities of financial intermediaries and of loan contracts that has recently received attention by American writers such as Lamoureaux, Calomiris, Snowden, and Guinnane.[5] We argue that the behaviour of financial intermediaries servicing the Australasian pastoral sector provides a fruitful context for investigating loan contract design. Specialist pastoral agent companies and trading banks have lent very large sums of money since the middle of the nineteenth century to an industry characterised by large and fluctuating risk levels both between individuals and over time. The particular focus here is upon sheep farming in light of the fact that wool exports have been the prime staple of both nations. Farming communities characterised by geographic remoteness yet social cohesion have obliged lenders to bear high information search costs while enduring pressure not to discriminate between borrowers. The development of sophisticated contract design which these circumstances engendered is thus an important story and one which is recorded by extant company records for all the leading pastoral agents particularly covering the period from the 1890s to World War Two

I

There were three main sources of demand for pastoral finance by farmers.[6] Short term seasonal finance covered the time lag between incurring marketing costs such as shearing, transport, insurance, and sale presentation, and receiving the proceeds from sales. Since both inland and overseas transport was slow and unreliable and most Australasian wool was sold in London in the mid nineteenth century, the demand for this form of finance was substantial and extended over about six months.[7] With the development of steam-shipping, railways, roads, and the movement of the wool market back to Australasia by the early twentieth century the period of seasonal finance was shortened.[8] Seasonal short term finance became cyclical medium term finance if low wool prices or poor harvests extended over several years so that the produce sales revenue was insufficient to cover the farmer's debts.[9] The periodic depressions and droughts particularly in the 1890s, early 1920s, and 1930s were times when farmers looked for crisis support.

Farmers additionally sought longer term loans to establish, extend, and modernise their business. Loans of several years duration, for example, were required after a prolonged drought such as in the second half of the 1890s. Farming became more capital intensive in the second half of the nineteenth century. As permanent stations replaced nomadic herding, there was a greater need for capital improvements such as water bores, plant, paddocking, and fencing. The boom in dairying and the development of refrigeration from the 1880s introduced more complex technology into farming. With the movement inland away from the most fertile coastal regions, farmers were increasingly faced with having to buy an existing run or settle on poorer land, both requiring increased investment. In addition, there was a strong trend towards purchase of the freehold on the land as a result of legislation passed in the 1860s and 1870s. Mortgages for farm purchase were often for three to five years. Other legislative developments designed to support the expansion of the pastoral sector also facilitated the growth of borrowing. The Lien on Wool and Livestock Act passed in New South Wales in 1843 and the Wool and Oil Securities Act in New Zealand in 1858 enabled pastoralists to borrow by giving security in the form of a preferable lien on an ensuing wool clip or by mortgaging livestock. Radical land policies towards the end of the century gave a further fillip to small scale farming by facilitating the sub-division of large estates.[10] Finally, the policies of providing land for returning soldiers after World War One initiated a further cohort of small and inexperienced farmers requiring finance to get established.

The main lenders to farmers were specialist pastoral agents, the trading banks, and private mortgagees. It is difficult to measure the absolute level of lending. Although there was provision for mortgage registration, many farmers preferred informal loans, even if this meant higher interest rates, in order to keep their indebtedness out of the public and trading eye.[11] Estimates of market share amongst different types of lender suggest the importance of pastoral agents; in Adelaide in 1934 they held 53 per cent of livestock mortgages compared with 25 per cent by the banks.[12] Since banks lent across many other sectors their support of the pastoral sector was intermittent and often of low priority.[13] In 1908 and 1913 bank lending to farmers had been cut back sharply. On the first occasion they diverted funds to into state government securities at tax concessional rates and on the second revealed a preference for their ‘commercial customers whose business in exchange and discounts is more liquid and profitable’.[14] In general, bank support for the pastoral sector was regarded as ‘reasonably conservative’.[15] This was initially the consequence of conservative attitudes towards lending on rural real estate inherited from British banking principles. However, caution was also borne of the problems lending to a highly volatile sector where the banks knew relatively little about many small scale remote producers. As an alternative strategy banks frequently lent indirectly to pastoralists through specialist pastoral agents as financial intermediaries.

The specialist pastoral agents lent only to this sector and, through a range of trading, technical, and financial exchanges with farmers knew a great deal about farming and the businesses of individual farmers. Such information intense relationships helped to overcome the barriers of remoteness and unfamiliarity. Since credit markets rely heavily upon information as a signalling mechanism this meant pastoral agents were well placed to make good lending decisions in an industry characterised by high and fluctuating levels of uncertainty.

This reciprocity of information flows between farmer and agent promoted honesty and trust as a basis for long term dealings between farmer and agent. It also offset the agent's frequent disadvantage of more expensive access to funds than banks by tying loans to the guarantee of trading business. Indeed, for many pastoral agents it was optimal to offer finance at zero economic profit (or even at a loss) because the present discounted value of expected income streams more than outweighed the total costs of finance provision. As one firm noted in comparing the rates at which they borrowed and relent the same funds, 'the difference of interest is not enough to pay for the risk...[but]...we are always prepared to take up business at current rates of interest, as we know that it is not so much the interest on the advance but the wool selling business which goes with it which is profitable.'[16]

In the mid nineteenth century most pastoral agencies were small local organisations which addressed the informational problems associated with distance by fostering close contacts within the local farming community. Thus, social and kinship ties as well as economic transactions were the basis for reciprocity.[17] By the end of the century phases of growth and merger had increased concentration levels amongst pastoral agents so that a small number of national firms dominated the industry. By 1910 the leading five pastoral agents in each country accounted for more than a half of wool sales in Australia and New Zealand, a market share which was maintained through the first half of the twentieth century (see Table 1 below).

Table 1. *Financial intermediaries market share by wool brokerage, 1891-1940*

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Tables 2 and 3 reveal that the ‘big five’ came from the same six or seven firms throughout most of the period. Given the close linkages between lending and consignment business we would expect the market share of wool brokerage to give a rough indication of market share in the finance market.[18] The existence of such a stable oligopoly meant firms were very conscious of the actions of their competitors in developing their policies.

Table 2. *Average market share (%) of Australian wool-brokers, 1891-1940*

about here

Table 3. *Average market share (%) of New Zealand wool-brokers, 1911-40*

about here

Pastoral agents, which included Dalgety, Goldsbrough Mort, and New Zealand Loan and Mercantile Agency, were amongst the largest, most enduring, and most organisationally sophisticated corporations in Australia and New Zealand. Table 4 shows that they dominated big business in Australia, occupying five of the top ten positions in 1910 including the largest company, Dalgety. This experience and resources enabled them to devise effective information acquisition and processing techniques and maintain extensive networks of branches in the main farming districts.[19] This was backed up with fleets of automobiles to make regular on-farm visits, and the establishment of information departments which kept detailed records about all relevant aspects of the businesses of their farmer clients. As we show later it was these dominant firms which were particularly associated with the design of loan contracts, and the examples we describe are representative of these businesses' activities.[20] Moreover, these firms advanced along a learning curve, adjusting their contractual strategies in the light of previous experience.

Table 4. *Pastoral agents in the top one hundred Australian companies (rank order)*

about here

That loans were so important to pastoral agents in securing business and that the penalties for getting it wrong were so great, in terms of large debts based on illiquid and volatile securities, meant that agents paid a great deal of attention to accurate risk categorisation and appropriate contract design. While banks diversified their lending across many sectors and loan types, the focussed attention of agency companies on pastoral finance justifies a considered look at their approach to contract design under the specific conditions of this sector.

II

Finance providers aim to attract as many low risk borrowers as possible while rejecting higher risk clients or setting differential terms for them which provide the lender with a risk premium. The economic literature on loan contract design under conditions of information asymmetries and adverse selection tells us that financial intermediaries will invest in information on borrower types when the gains to acquiring information outweigh the costs of collecting it.[21] In such circumstances lenders will design contracts according to risk in order to increase profit outcomes.

Imperfect information introduces two opposing effects on the welfare of the agent and the farmer. First, since information is imperfect additional uncertainty is introduced into the agent-farmer relationship. Second, the inclusion of monitoring can motivate the farmer to take actions that would make both agent and farmer better off; for example, taking more care in working the farm. When farmers are risk averse and information is incomplete any contract that depends on cost and choice is strictly Pareto superior to a contract that depends solely on cost.[22] Thus, in the case under review we would expect to find loan contracts based upon interest rates and a signal for riskiness such as collateral.

Agents categorised farmers into borrower types in order to design separating contracts whereby low risk farmers were offered lower interest rates than high risk farmers, but were required to provide greater amounts of collateral. Constructing a risk profile of farmers required an appropriate weighting of the type of loan, the collateral provided, the character of the client, the nature of the activity, the condition of the assets employed, the sector-wide prospects for this activity during the course of the loan, and the volume of trading business likely to be generated. The highest risk loans were station mortgages where the asset was most illiquid and its value liable to considerable fluctuation over the course of the loan according to its maintenance as well as changes in industry-wide conditions. However, by tying in the borrower for a longer period of time it provided stronger guarantees of sustained trading revenues (that is, ensuring access to consignment business).

The nature and degree of collateral affected the potential losses to the agent in the case of default. Companies generally lent to a maximum of 75 or 80 per cent of the value of collateral which was normally the asset for which the loan was provided.[23] Given the fluctuating nature of the value of farm collateral in a highly cyclical industry this was the very maximum which would be lent to a low risk customer. First mortgages were naturally preferable to second or third although the latter were also considered while taking account of who the first mortgagee was and the respective loan security ratios. Alternative collateral included life insurance policies, personal guarantees of another person, and other tangible assets belonging to the borrower.

The character of the client clearly had a major bearing on the riskiness of the loan particularly in situations where monitoring was difficult and expensive. Anything less than very positive signals would rank the loan as risky. Agents looked for previous successful experience in farming with evidence of industriousness and acumen focussed upon this activity. With existing customers this was not such a difficult task especially where the agent had other clients in the area with which to compare performance. Long term clients who had survived previous downturns in the industry were regarded as a particularly low risk. Where the borrower was unknown to the firm it drew heavily upon references and personal discussions. Since farming was very much a family unit evidence of dependency or of support from other family members was also an important consideration.[24]

With regard to the nature of the activity, pastoral agents naturally regarded sheep farming as the lowest risk, since this was the area with which they were most familiar and were geared to providing support services. However, related new or expanding rural industries provided important opportunities for agents, particularly dairy production, frozen meat, tallow boiling, and flax growing each of which yielded trading income and the efficiency benefits of economies of scope through technological and marketing concentricities. More risky was diversification into unrelated activities and where limited trading income was generated. Such examples included the finance of trading and transport enterprises. When the firm Murray Roberts decided to finance the South Sea trading account of Goodwin and De Lisle in 1890 they looked carefully into the activity and were confident that these old clients would be successful. They proved to be incorrect, misjudging the risks and key features of this activity.[25] The condition of the assets employed in a farming business, irrespective of whether they were mortgaged to the agent, would affect the ability to generate profits and repay the loan. Agent inspectors paid close attention to the condition of the land, the buildings, and the machinery employed. Poor conditions might be due to local factors, such as low rainfall or rabbit infestation, or the result of neglect; either way it indicated a struggling or neglected business which might require additional support in the near future.

Finally, since the major aim of pastoral loans was to secure trading business, an important consideration was the amount of produce consignment and brokerage income which the new account was likely to generate. Firms had a well defined ratio between the amount to be lent and the anticipated volume of business. In 1921 the Union Mortgage and Agency Co. in reviewing its client list believed that the 1200 sheep owned by one borrower was insufficient business for his loan of £1500 while another owed £4000 which was too much for only 1800 sheep.[26] However, if the ratio was particularly favourable this might offset other risky elements in the loan application itself. New Zealand Loan explicitly sought a ten per cent return on the capital tied up in lending to a client and this could be calculated as the aggregate of loan repayments and income from business.[27]

Pastoral agents characterised the majority of their clients as medium to high risk concerns. Indeed, as we have shown above, the low risk classification was usually only applied to well established farmers with a sound credit history who had business with agents over many years if not a generation. Given this distribution of risk types it was optimal for agents to invest in information on borrower type, and initially use two pooling contracts, for high and low risk farmers.[28] Agents were clearly aware of the incentive problems associated with offering a single pooling contract that would have to be fully collaterised; as Goldsbrough Mort noted of high risk farmers, ‘where an owner has but little margin there is some temptation for him to speculate by trying experiments, by overstocking or gambling with seasons with the hope of strengthening his position by making a big hit and as he has nothing to lose if a smash should occur we will be the sufferers'.[29] After distinguishing risk types agents offered two incentive compatible contracts such that it was hoped high risk farmers would opt for the low collateral contract while low risk farmers choose the high collateral contract. The information gathering difficulties generated by the remoteness and unfamiliarity of Australasian pastoralism meant that the two pooled contracts provided only a broad form of risk classification. After the initial sorting tasks, therefore, agents drew upon their experience and resources to further separate out farmers who were willing to work harder if a contract required higher collateral, recognising that higher collateral may induce higher work effort whereas a higher interest rate induced a lower work effort.[30] The intuition here is that when a farmer posts higher collateral, the farmer's loss when the project fails will increase and there is an incentive for the farmer to reduce the probability of failure by working harder. By contrast, when the interest rate increases each farmer's net payoff in successful states (that is, after the loan is repaid) decreases, inducing less effort.[31] Thus, agents adopted a two-stage process which reflected the use of pooling and separating contracts.

Examples of separating contracts are not difficult to find inspite of the view of one historian that, 'before 1930...relatively uniform rates and commissions were charged leaving firms free to compete by offering more attractive services or by extending branch networks'.[32] Two decades earlier the Union Mortgage had agreed a loan at the low rate of 5 per cent interest noting, 'competitors have offered to take business on the terms named in which event valuable existing business will be lost'.[33] Further back still in June 1899 General Manager Niall persuaded the Board of Goldsbrough Mort to approve the reduction of interest rates on high yielding accounts with ample security from six to five per cent in response to this action by competing firms. This was the conclusion of an ongoing debate about whether to offer discriminating rates on which the previous meeting had taken the view that all accounts should be charged 6 per cent.[34] Although the differential margin was normally no more than one per cent, in 1896 Denny Lascelles agreed a loan at 5.5 per cent when the prevailing rates were 7-8 per cent.[35] Tougher conditions were set for higher risk clients. Thus, National Mortgage and Agency and Otago Farmers charged an extra half per cent interest for unsecured loans and New Zealand Loan raised a client's rate when less than the expected amount of wool was consigned through the firm.[36] Other forms of non-price discrimination occasionally adopted for higher risk customers after the initial screening process included establishment fees of several per cent of the value of the loan, a late payment penalty of about two per cent and an early payout charge of three months interest.[37]

The use of collateral as a tool of contract design was learnt by the leading firms over the course of the first half of the twentieth century. In the nineteenth century most pastoral loans were unsecured and relied on local trust networks. As NMA noted in 1921, ‘in the past we were compelled in the majority of cases to accept a moral security, and if we attempted to ask for a proper legal security, it generally resulted in the client paying us off’.[38] However, conditions and attitudes changed in the industry. The financial losses suffered by most of the firms in the 1890s crisis were an important influence. In addition, the gradual expansion of large national firms meant the breakdown of local social networking and the emergence of experienced well resourced firms able to experiment with new policies. These firms were also conscious of their competitive position; NMA noted competitors would be less willing to try and win over a firm’s good clients when their assets were secured to that firm.[39]

Since the loan contract was part of broader contractual arrangements between the farmer and his agent, discriminating terms might be provided in a variety of other ways which were not embodied in the loan agreement itself. These might include lower consignment commissions, commission rebates, and discount on items purchased through the firm's outlets. One particularly favoured Otago Farmers customer received 18 per cent discount on purchases at a time when 2.5 to 5 per cent was more common.[40] The firm also resorted to offering free woolpacks to particular customers while Goldsbrough Mort provided for a 20 per cent rebate on wool commissions in 1934.[41] Differential terms of service included the agent visiting the farmer at home rather than the latter coming into the office. In the case of the preferred Otago Farmers' client mentioned above, lower prices were supported by delivery of the goods to the farm gate. Self interest was never far behind, the managing director noting of a visit to the farm, ‘I gathered an immense amount of information from him with regard to the district generally’.[42]

III

Agents faced various constraints on their desire to separate out contracts. Most obviously individual contracts cost more to establish and operate. The initial risk assessment involved high set up costs in the form of information search followed by the design and negotiation of non-standard contractual conditions. The geographic remoteness of many farms and diminishing returns to search meant that decisions were made under conditions of imperfect knowledge. Where search costs for a particular account began to rise, for example through the need for additional personal and financial information, this often signalled to the company that a significant risk was involved. Reputable applicants were generally easier to identify. Over time further information would emerge in the course of trading and the flexible nature of contractual arrangements allowed for subsequent modifications of the conditions. Otago Farmers noted of their rural outlets that ‘the country members of the staff are the eyes and ears of the Institution’.[43] Firms also learned means of standardising search methods to reduce costs such as printed loan proposal forms which requested information on an applicant's antecedents, character, capabilities, connections, collateral, other accounts, and anticipated business with the firm. Murray Roberts regularised reporting methods through a printed annual report form dealing with the critical areas of risk.[44]

These establishment policies were vital since incorrect initial decisions raised transaction costs during the course of the loan. Close monitoring of problem accounts involved visits to the farm and the writing of detailed reports which were discussed at length in Board meetings. The directors of all the companies spent much of their time discussing a limited number of problem accounts, a point which the Otago Farmers' chief creditor, the Bank of New Zealand, was quick to point out.[45] Enforcement costs rose as agents negotiated amended contractual conditions in an attempt to oblige compliance or force the client off their books and, in extreme cases, foreclosed on the account.[46]

Borrower actions influenced the extent of contract separation. High risk customers sent out mixed signals to lenders in order to make the process of separation more complex and expensive. As we have argued, toughening the interest rate terms for an existing client might invoke adverse selection and moral hazard problems if the farmer was a high risk type and took this as a signal that his case was nigh on hopeless; George Whyte of Glenledi was, ‘feathering his nest with a view to walking off the property’.[47] On the other hand, it was in the best interests of low risk farmers to identify themselves as low risk by signalling credibly to agents or else risk being mistaken as a high risk type.[48] The extent to which very good risks were shown particular favour was influenced by their volubility in playing off agents against each other. Hugh O'Hare asked Pitt, Son and Badgery to reduce his interest rate from 6.5 to 5 per cent in August 1913, observing that he had offers from two other firms at the lower rate. The firm responded by offering 6 per cent.[49] Falconer, the London manager of Australian Mercantile Loan and Finance, bemoaned in 1907 the lack of loyalty of clients who, ‘are not restrained by a feeling of gratitude for previous liberal treatment from exacting all they can’.[50]

The willingness and ability of agents to respond to borrower demands and actions was heavily influenced by the relationship between the different lenders, particularly the degree to which they shared information about clients and their own policies. While Tsokhas is incorrect to suggest that there was no price competition between lending firms before 1930, he is right to point to the importance of the ‘brokers’ associations and the close, informal relationship between the [agents]’.[51] Although agents clearly competed with each other to obtain the lowest risk customers, they appear to have shared general economic and farming information. The fact that many farmers were indebted to several firms at once provided an incentive for mutual information exchange between lenders. The extent of inter-firm cooperation varied from time to time but even where levels of trust were low, client risk assessment was unavoidably signalled through firm action. Thus, if a firm's level of rate discrimination was known to other firms this indicated which of these farmers they might attempt to entice and those whose applications ought to be treated with some degree of scepticism.[52]

Cooperation between pastoral agents and banks also helped to spread information costs. While both types of institution competed for pastoral loans they also complemented each other when banks more commonly provided personal banking services to a client who was financially linked to an agent. A further reason for cooperation was that the major banks were often the ultimate source of much of the supply of funds for many of the medium sized and smaller agents. In 1898 when Fitzwilliam Wentworth refused to provide all the necessary financial details requested by the Australian Mercantile the firm approached the Bank of New South Wales who confirmed that he had an ample margin of security and was considered a good risk.[53]

Equally important were the relationships among borrowers and the extent to which they shared information about their own position and that of the agents with which they transacted. Lenders sought to suppress information about differential terms to other borrowers as well as competing firms for fear that this would lead to pressure from other customers whom the firm wished to retain. In spite of the emphasis upon confidentiality among company officers the close social and kinship links within rural communities meant it was often difficult to prevent the spread of such information. The restraints on offering lower interest rates to low risk customers were clearly recognised as Australian Mercantile noted:

> 'I am most anxious to see an increase in the earnings of the Company but the fact of the relationship between many of our clients, and a number of them residing on properties adjoining other clients, together with the possibility of them being taken up elsewhere, makes the question of differentiating in the interest rates charged to existing clients appear to me to be a somewhat dangerous one'.[54]

Likewise, the problems of differential action against high risks was also noted by the firm: 'There exists among our clients so many close family connections that extreme caution has to be exercised in dealing summarily with those whom it might be desirable to be quit of'.[55] Alternatively, low risk customers might also be offended if they believed the company was offering identical terms to more risky clients, especially after the initial screening process had been completed.

IV

In any single period contract the agent aimed to deter strategic default by increasing the amount of monitoring of the contract and imposing collateral requirements. However, when loan contracts existed over several periods it became possible for pastoral agents also to draw upon self-enforcement mechanisms in order to achieve contract completion. The necessity of multi-period loan contracts in the agricultural sector meant that farmers and agents had to bear in mind the impact of opportunistic behaviour on future economic opportunities. Myopic shirking behaviour by the farmer (or even by the agent) was deterred since any action in the current period also affected future earnings. Once multi-period (or long term) contracts existed then the incentive compatibility condition of any separated contract was altered such that the farmer's failure to repay the loan now involved a loss of reputation and future utility. In subsequent periods it may be harder for the farmer to obtain finance.[56]

Besides reputational effects, multi-period contract design was also affected by the severe cyclical vicissitudes which have characterised the pastoral industry. Difficult periods have included the Australian drought years of the 1890s, and the collapse of primary produce prices during the interwar slump. The severe impact which pastoral depressions had on the social and economic fabric of rural communities inevitably affected contractual relations. The influences upon contracting discussed in the previous sections were all affected. Closer supervision of problem accounts raised costs at a time when firms were trying to economise and left little margin for expenditure on attracting new clients. Firms found themselves faced with requests for favourable treatment from high risk clients more than low risk ones who had sought lower rates in better times. Lenders began to show less regard for customer loyalty and borrowers for honest behaviour, albeit within the bounds placed upon their actions by the welfare losses associated with a loss of reputation. Conversely, cooperative behaviour was induced among lenders desperate to shore up their rate and commission positions and to consolidate mortgagee rights held jointly over different accounts.

In prosperous periods when firms had plenty of money to lend many proposals were supported and mostly under standard conditions as firms struggled to keep pace with the opportunities for additional business. In 1909 and several following years Goldsbrough Mort were accepting most loan applications and these decisions were being taken by the General Manager without reference to the Board for approval.[57] Branch managers were also given greater latitude in loan approvals which sometimes led to Board level directives for greater discrimination.[58] However, failure to understand the extent of client exit costs meant that indiscriminate policies in boom periods built in latent problems which would only become apparent during economic downturns. Other weakening clients who simply survived on the firm's books through the alternative restraints on separation discussed above, such as loyalty and community factors, added to this problem.

Agents took a much more conservative line with new loan applicants during downturns, realising that many of their existing customers were running into greater debt. In 1893 Australian Mercantile emphasised that safety was their prime consideration and that they had refused all new loan applications in the previous year in order to concentrate upon supporting their existing clients.[59] In a similar downturn two decades later the firm modified its strategy so that it would only take on new accounts which yielded large commissions; other applications, even with ample security, yielded insufficient 'contingent returns from wool and produce'.[60] It is not clear whether this meant a shift in emphasis between pooling and separating for any new borrowers but for existing clients there were some highly significant policy developments.

As prices fell during downturns and prospects looked poor many accounts began to run at a loss. Indebtedness to agents and banks increased as produce sales failed to cover short term produce advances and periodic mortgage payments could not be met. Many farmers became discouraged in their efforts and in some cases the forms of opportunism alluded to above became more common. Agents were opposed to foreclosing on most of these customers unless mismanagement or opportunism was contributing significantly to excessive debt levels. Foreclosure meant extra administration if the firm ran the farm, and loss of commissions and capital write-offs if it was sold. Realisation of capital losses was a serious risk for agents whose own weakening financial status put at risk the support of banks and farmer creditors who were likewise going through severe difficulties. Moreover, since downturns were known to be cyclical many agents sought to bring their struggling clients through to better times and used this argument to maintain support among their own creditors.

The fact that exit costs rose to such high levels in periods of downturn had a major impact on contractual policies for existing clients. Individual clients were affected differently by the depression depending upon farm specific features such as cash reserves, entrepreneurial spirit, and production flexibility. The impact did not accord closely to the original risk categories and therefore required agents to re-rate their clients' accounts as being in a stronger or weaker condition. Discriminating against the weaker accounts would worsen problems of effort and honesty and was unlikely to offload the farmer onto other firms adopting highly conservative new loans policies. Thus, agents with experience of the 1890s downturn developed a modified form of contractual separation during the interwar depression: the weakest accounts, where foreclosure was ruled out, were charged the lowest rates of interest and in some cases no interest at all. In 1932 Goldsbrough Mort had a list of clients who were being provided with relief by a rate reduction or a partial debt write-off.[61] In 1931 40 per cent of Dalgety's New South Wales clients did not meet all their financial commitments to the firm. Such concessions may also have helped improve the condition of farms so that their value could be kept within range of the debt burden and some could be sold off once any indication of improved conditions began to occur.[62] It was also hoped that by creating goodwill clients would be encouraged to cut their own costs although careful monitoring was required to ensure the need was genuine and did not lead to interest suspension being taken as a free gift. Such a policy was not advanced without some concern for the justice of it and the likely negative signals to better clients; the London Secretary of Dalgety despaired that, 'at a time when thoroughly deserving clients require every assistance, the company's funds should be in the hands of undeserving clients'.[63]

Agency firms were more divided about the degree of separation for other groups of clients. In 1931 Dalgety had moved away from the normal low and high risk categories to a more complex set of contracts. It separated its accounts into hopeless, hopeful, and sound, all interest being suspended on the first, partial interest on the second, and full payment being made on the third.[64] In 1933 Dalgety, Elders and Goldsbrough Mort were involved in a rate agreement to fix a standard level for clients whose interest had not been suspended. However, Goldsbrough Mort had some reservations about this approach, 'as surely a first class well secured account is entitled to a better rate...we are not prepared to lose business we value on a question of rate'.[65] Goldsbrough Mort and Australian Mercantile also moved to a three risk categorisation but discriminated in favour of both the best and worst risks, leaving the 'reasonably safe' accounts to pay a higher standard rate. In a previous crisis in the 1890s Australian Mercantile went as far as to advocate reducing their overdrawn list by calling in the advances of those who could afford to pay, presumably referring to the hopeful or reasonably safe accounts.[66] This obviously carried some risk of losing trading business from such accounts but was vital to reduce the agent's own costs and left them to concentrate on retaining the good accounts and maybe attracting some additional ones. Although new gilt edged accounts with high trading volumes would still be welcomed during depressions, the ability to distinguish risk levels was constrained by the need for cost cutting and lower prices. This dilemma led Otago Farmers to spend much time in the 1930s discussing the costs and benefits of its network, periodically opening and closing different branches. An alternative policy of working on attracting untied customers presented similar problems as Goldsbrough Mort noted, 'it is a matter for consideration whether the cost (increased advertising, additional travellers, entertainment money etc) which would be incurred in inducing further free business would be recouped by the commission earned'.[67]

V

Our study of the Australasian pastoral sector indicates that specialist lending agents understood many of the incentive compatibility conditions involved in contract design and put them into practice before World War Two. They recognised the importance of investing in information as a basis for categorising risk levels. The incentives in the contract were then structured in a manner compatible with the risk levels identified. Thus, lower risk clients are attracted by a reduced interest rate and will work harder if higher collateral is required. At the same time agents accepted that there were constraints on the design of separate contracts at the commencement of the loan. These particularly included the high information costs associated with Australasian conditions together with the limitations imposed by borrower or lender relations. Diverse trading relations between the agent firm and its farmers, however, spread information costs across a range of activities and revealed further information which might lead to an adjusted risk assessment and consequent modification of the contract.Contracts and risk categories also had to be reassessed in light of the rapidly changing environmental conditions which characterised farming and could affect different farms in distinct ways. Thus, some firms moved from a two to a three tier system of risk analysis during the interwar crisis.

The historical evidence largely relates to the dominant wool growing sector in the half century between 1890 and 1940. This period witnessed two major downturns enabling firms to learn from previous experience and modify their lending strategies. The leading agency firms were among the largest and most well organised businesses of the period and developed their own corporate memories. Firms like Goldsbrough Mort and New Zealand Loan which had been through the rural depression of the 1890s coped with the interwar crisis better than more recent entrants like Otago Farmers. Until further empirical studies are completed we cannot know how common it was for lenders to apply these principles of contract design at this time. However, our evidence suggests that such practices were particularly suited to financial intermediaries that were well resourced, enduring, and specialised in lending and trading with a particular sector.

Table 1. *Financial intermediaries average market share by wool brokerage (%), 1891-1940*

Year	**Australia**			**New Zealand**		
	2 firm	**4 firm**	**5 firm**	**2 firm**	**4 firm**	**5 firm**
1891-1900	30	48	55	-	-	-
1901-10	27	44	51	33	46	51
1911-20	28	43	49	29	42	48
1921-30	27	45	52	28	44	50
1931-40	26	43	51	30	46	52

Sources: Dalgety Annual Wool Review; *Australian Insurance and Banking Record*; New Zealand Woolbrokers' Association, Turnbull Library.

Table 2. *Average market share (%) of Australian wool-brokers, 1891-1940*

Year	Dalgety	NZLMA	ES	GM	AMLF	WC
1891-1900	10.3	12.7	3.7	16.6		
1901-1910	15.2	11.3	4.1	10.3	5.7	7.4
1911-1920	18.2	10.2	5.4	6.9	7.0	6.5
1921-1930	15.7	9.8	6.8	9.6	9.2	7.6
1931-1940	15.6	8.3	6.6	10.6	8.4	7.8

Notes:

NZL = New Zealand Loan and Mercantile Agency; ES = Elder Smith; GM = Goldsbrough Mort; AMLF = Australian Mercantile Loan and Finance; and WC = Winchcombe Carson*Sources: Dalgety Annual Wool Review*; *Australian Insurance and Banking Record*.

Table 3. *Average market share (%) of New Zealand wool-brokers, 1911-1940*

Year	**Dalgety**	**NZLMA**	**WS**	**NMA**	**MR**	**Pyne**	**Levin**
1911-1920	18.6	10.6	5.1	6.2	6.0	4.7	5.5
1921-1930	18.4	9.6	8.0	6.6	5.8	6.4	6.6
1931-1940	19.0	11.8	8.7	7.1	5.4	5.8	5.5

Notes:

NZLMA = New Zealand Loan and Mercantile Agency; WS = Wright Stephenson; NMA = National Mortgage and Agency; MR = Murray Roberts.

Sources: Dalgety Annual Wool Review; New Zealand Woolbrokers' Association, Turnbull Library.

Table 4. *Pastoral agents in the top one hundred Australian companies (rank order)*

Company	1910	1930
Dalgety	1	2
New Zealand Loan and Mercantile Agency	4	8
Australian Mercantile and Loan Finance	6	16
Goldsbrough Mort	8	7
Elder Smith	10	10

Source: S.P. Ville and D. Merrett, 'The development of large scale enterprise in Australia, 1910-64', *Business History*42, 3 (2000).

NOTES

We would like to thanks Andrew Parnell for valuable research assistance, the editor Philip Cottrell, and the helpful comments from an anonymous referee.

[1] N. Butlin, *Investment in Australian Economic Development, 1861-1900* (London, 1964), pp. 62-70.

[2] ibid., pp. 122-24.

[3] Butlin, *Investment,* p. 125.

[4] On the role of banks in Australian economic development see, for example, M.W. Butlin, 'Capital markets', in R. Maddock and I.W. McLean (eds) *The Australian Economy in the Long Run*, (Cambridge, 1987), pp. 229-47; D. Merrett, 'Capital markets and capital formation in Australia, 1890-1945', *Australian Economic History Review*, 37 (1997), pp. 181-201.

[5] N.R. Lamoreaux, 'Information problems and banks' specialization in short-term commercial lending: New England in the nineteenth century', and C.W. Calomiris, 'Comment', both in P. Temin (ed) *Inside the Business Enterprise: Historical Perspectives on the Use of Information*, (Chicago, 1991), pp. 161-95, 195-203; K.A. Snowden, 'The evolution of interregional mortgage lending channels, 1870-1940: The life insurance-mortgage company connection', and T.W. Guinnane, 'Comment', both in N.R. Lamoreaux and D.M.G. Raff (eds), *Coordination and Information: Historical Perspectives on the Organization of Enterprise*, (Chicago, 1995), pp. 209-47, 247-55.

[6] Australian pastoral finance is discussed in Butlin, *Investment*, pp. 111-47. See S. Ville, *The Rural Entrepreneurs. A History of the Stock and Station Agent Industry in Australia and New Zealand* (Cambridge, 2000) ch. 4 for a comparison with New Zealand

[7] Eighty per cent of Australian wool was sold in London in the 1860s. A. Barnard, *The Australian Wool Market* (Melbourne, 1958), p. 47.

[8] By the first decade of the century in Australia, and the second in New Zealand, three-quarters of wool sales were completed in Australasia. *Dalgety's Annual Wool Review*.

[9] Average debt per bale among clients of Goldsbrough Mort in 1930 was 183 per cent of its sale value, compared to only 35 per cent in 1945. Barnard collection Q50, box 4, folder 3, Noel Butlin Archive Centre, Australian National University (hereafter NBAC).

[10] This is the subject of S. Eldred-Grigg, *A Southern Gentry* (Wellington, 1980).

[11] Denny Lascelles in-correspondence from Donald brothers, 1892 held at the University of Melbourne Archives (hereafter UMA).

[12] Elder Smith, N102/31 Memos to Board 1933-37 held at the NBAC.

[13] Barnard, A. (ed.) *Simple Fleece. Studies in the Australian Wool Industry*, (Melbourne, 1962), p. 622.

[14] Australian Mercantile Loan and Finance Papers 97/36/26/46, correspondence 28.2.13 (hereafter Australian Mercantile) held at the NBAC.

[15] R. F. Holder, *Bank of New South Wales: A History*, (Sydney, 1970), p. 363.

[16] Denny Lascelles correspondence, 7/11/1892; 165/42, UMA.

[17] S.P. Ville and G.A. Fleming, 'From kinship to relations economic? The development of pastoral networks in Australasia', in M. Moss and A. Slaven (eds) *Entrepreneurial Networks and Business Culture*, (Madrid,1998), pp. 115-34, and 'The nature and structure of trade-financial networks: Evidence from the New Zealand pastoral sector', *Business History*,42 (2000), pp. 41-58.

[18] For example, in 1961 the leading four companies accounted for 50 per cent of Australian wool sales and 62 per cent of advances. Their share of short term accommodation would have been somewhat lower. Dalgety 100/1/55/17 and *Annual Wool Review*.

[19] S. Ville, 'The organisational development of pastoral agency firms' (Paper presented to the annual conference of the Economic History Society of Australia and New Zealand, Wellington, 1998).

[20] A more systematic quantitative analysis of loan contracts is a topic for further research.

[21] For example, M. Harris and A. Raviv, 'Optimal incentive contracts with imperfect information', *Journal of Economic Theory*, 20 (1979), pp. 231-59, and 'Some results on incentive contracts with applications to education and employment, health insurance, and law enforcement', *American Economic Review*, 68 (1978), pp. 20-30; M. Hellwig, 'Some recent developments in the theory of competition in markets with adverse selection', *European Economic Review*, 31 (1987), pp. 319-25; J-J. Laffont, *The Economics of Uncertainty and Information*, (Cambridge, MA, 1989).

[22] Harris and Raviv, 'Some results'.

[23] Pitt, Son & Badgery Minutes, 23/2/09, NBAC (cited hereafter as Pitt, Son)**;** Winchcombe Carson K8228 correspondence held at the Mitchell Library Sydney. It should be noted that evidence available on trading banks mortgages indicates that they lent about 60% of the value of security (see T. Ishida, 'A study of the pastoral finance and the mobilization of mortgage in the second half of the nineteenth century in Australia', *Obirin Economics*, 27, (1991), pp. 12-13.

[24] An extension of this idea is the fact that farming activity was community based and the lender would take account of the standing of the client within the local society. Social standing might give some indication of personal characteristics and reputation but was also indicative of the degree to which other farmers might come to his support in difficult times. Moreover, if the client was well regarded within the local community he might purposely or incidentally generate additional business for the lending agent.

[25] Murray Roberts 0015, held at the Fletcher Challenge Records Centre, Auckland, New Zealand (hereafter as Murray Roberts).

[26] Union Mortgage and Agency Papers 165/144 held at the NBAC (hereafter as Union Mortgage).

[27] New Zealand Loan and Mercantile Agency Board Minutes, 29/3/70, held at the Alexander Turnbull Library, Wellington, New Zealand (hereafter as New Zealand Loan).

[28] Hellwig 'Some recent developments', p. 323 outlines the conditions under which separating contracts are preferred over pooling contracts. The benefits from sorting will exceed the costs when the proportion of high risk farmers in the population is high. In this case the costs of subsidising high risk loans from low risk loans (with a pooling contract) is prohibitive.

[29] Goldsbrough Mort Board Papers 87, 18/5/1894 held at the NBAC (cited hereafter as Goldsbrough Mort).

[30] See Y-S. Chan and A. Thakar, 'Collateral and competitive equilibria with moral hazard and private information', *Journal of Finance*, 42, (1987) for a theoretical discussion of this insight. Agents did not contemplate the possibility that raising collateral requirements may itself have adverse selection problems; see J. Stiglitz and A. Weiss, 'Credit rationing in markets with imperfect information', *American Economic Review*, 71 (1981), pp. 393-410.

[31] Y-S. Chan and T. Anjan, 'Collateral and competitive equilibria', p. 353.

[32] K. Tsokhas, *Markets, Money and Empire: The Political Economy of the Australian Wool Industry*, (Melbourne, 1990).

[33] Union Mortgage 165/141.

[34] Goldsbrough Mort f257, p. 32; Barnard Q50, Box 3, Board Minutes, NBAC.

[35] See Lascelles Correspondence.

[36] Otago Farmers Minutes Book 7, held at the Hocken Archives, University of Otago, New Zealand (cited hereafter as Otago Farmers); See also New Zealand Loan 27.3.79.

[37] New Zealand Loan 26/6/78; Otago Farmers Books 5 and 6.

[38] National Mortgage & Agency, UN 28 Box 5. held at the Hocken Archives, University of Otago, New Zealand (hereafter NMA) Murray Roberts noted the same effect in 1895, 0575.

[39] UN 28 box 5. By the 1920s NMA were taking security on almost all loans.

[40] Otago Farmers Book 6.

[41] Otago Farmers Book 8; Goldsbrough Mort 2B/36f.156, p. 53.

[42] Otago Farmers Book 6.

[43] Otago Farmers Book 5.

[44] Murray Roberts 0056.

[45] Otago Farmers Book 6.

[46] For example, Hugh Blaikie, a client of Otago Farmers, took up a great deal of the firm's time and money in legal costs, board discussions, interviews, and preparation of reports which included a 33 question enquiry completed by Blaikie; Otago Farmers Book 6.

[47] Otago Farmers Book 7.

[48] Laffont *Uncertainty and Information*, pp. 132-33

[49] Pitt, Son Minutes.

[50] Australian Mercantile 97/36/26/32.

[51] Tsokhas, *Markets, Money,* p. 144.

[52] As an Otago Farmers' agent reported, 'several people have approached me with regard to our taking over their accounts from other firms...our rivals are ...squeezing those accounts which they consider undesirable' (Otago Farmers Book 5).

[53] Australian Mercantile 97/36/26/10.

[54] ibid.,133/5/1.

[55] ibid., 97/36/12/1. It should also be noted that in multi-period contracts low risk customers would have some incentive to suppress knowledge of their privileged position.

[56] On long term contracts in the pastoral sector see Y. Hayami and K. Otsuka, *The Economics of Contract Choice: An Agarian Perspective*, (Oxford, 1991), pp. 56-67) and, more generally, J. Hirshleifer and J. Riley, *The Analytics of Uncertainty and Information*, (Cambridge, 1992), pp. 431-53.

[57] Goldsbrough Mort 2B/36 f.556-7.

[58] Barnard Collection Q50, 4, 3.

[59] Australian Mercantile 97/36/14/5.

[60] ibid., 97/36/26/46.

[61] Goldsbrough Mort 540, 35/6.

[62] Tsokhas, *Markets, Money,* pp. 128, 6-7. Tsokas (p. 129) notes that, 'the key consideration was to continue to lend in a way that made possible an equilibrium between the market value of assets and the value of debts for as many clients as possible'.

[63] ibid., pp. 129, 121-22.

[64] ibid., p. 129.

[65] quoted in Tsokhas, *Markets, Money,* pp. 149-150.

[66] Australian Mercantile 97/36/14/5.

[67] Barnard Collection Q50, 4, 3.