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Managing decline: the jute employer's strategies.

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Abstract

Jute was a 'pioneer' in the decline of the great staple industries of late nineteenth century Britain, reaching its peak output and employment around 1908. Thereafter, above all because of Indian competition, the industry declined until finally disappearing in 1999. Faced with this competitive pressure, the jute employers (acting both individually and collectively) developed a number of strategies to resist or manage this decline. These can be summarized under three broad headings:

1) Protection: even before the industries peak, many employers had been converted to a protectionist stance. However the pursuit of this was constrained both by the characteristics of the industry (it was primarily an export industry; its main competitor was within the Empire, and hence raised major problems of imperial policy); and also by politics (in Dundee, as elsewhere, no mass support for protectionism emerged). However, the industry was given protection for strategic reasons in 1939, and this continued post-1945 largely because of arguments about employment. From the 1940s the employers deployed the employment argument with some success, building local coalitions of support, and achieving some influence in national policy.
2) Modernization: while the industry's response to Indian competition was never wholly defensive and passive, it was only from the 1940s that the industry pursued a distinctive 'modernization' strategy, combining i) major investments in new equipment, especially looms; ii) significant reforms of working practices, including extensive shift working and job evaluation iii) a market shift towards more complex products less subject to Indian competition.
3) Corporate diversification: this involved movement into both related technologies/products, most importantly polypropylene, and into wholly unrelated activities. The movement into polypropylene resulted, at least in part, from co-operative behaviour amongst jute firms

In the context of this broad summary of the responses of jute to decline, this paper focuses on two main questions:

a) how did the industry's employers organize themselves in the face of mounting competitive pressures—what forms of collective action were pursued, and what determined the effectiveness of such action?
b) What was the relationship between the protection granted to the industry after 1939 and the 'modernization' strategy'? Was there an effective 'bargain', whereby government gave protection to the industry, in exchange for the industry's commitment to improve efficiency? If so, how was this bargain secured?

Growth and development before 1914

The jute industry in Dundee grew out of the long-established linen industry in the town.[1] It expanded rapidly from the mid-nineteenth century, drawing in large numbers of migrant workers from elsewhere in Scotland and from Ireland. By the late nineteenth century Dundee had become and enormously prosperous 'juteopolis', its local economy extraordinarily dominated by this one industry (Table 1), and the industries such as textile machinery or the docks whose fortunes relied upon jute. [2]

Table 1 Proportion of Jute Workers in Total Working Population of Dundee 1881-1931

1881	49
1911	48
1931	41

Source: 1881-1961: A. Carstairs, 'The nature and diversification of employment in Dundee' in S. Jones (ed), *Dundee and District* (Dundee, 1968), pp. 320, 328.

Expansion was especially rapid in the period from 1870 to 1890, when the number of spindles rose from 94,250 to 268,165; the number of looms from 3,744 to 14,107; and numbers employed from 14,911 to 43,366.[3] But the pattern of expansion was by no means smooth. Jute was from the beginning a highly 'globalized' industry, greatly affected by events across the world — from variations in the monsoon affecting the raw jute crop, to the impact of the American Civil war on the demand for jute bags. It was also affected by both regular trade cycles and periodic financial crises, such as the US stock market crash of 1907, which seriously affected its biggest market in the USA.[4] This vulnerability to external forces reflected both its reliance on Bengal for all of its supplies of raw jute, and on export markets for most of its sales. The biggest product of the industry was jute sacks, which, apart from their use as sandbags by the military, were used to transport many of the great staple products of international trade — grains and coal for example. This meant that fluctuations in those trades directly affected Dundee livelihoods.[5]

Alongside these cyclical and 'one-off' factors affecting the industry were long-term competitive pressures, resulting from foreign competition, especially from India. Hand production of jute goods had long been practiced in India, but from the 1850s a machine industry was established and expanded rapidly in the Calcutta area. British, especially Scottish, entrepreneurs played a key role in this expansion, mainly organised around British managing agents establishing rupee denominated companies, and drawing resources mainly from British residents in India.[6]

By the end of the century jute had become one of India's most important manufacturing industries, rivaling cotton. There is a very rich literature on this industry, which was in many ways a pioneer of capitalist enterprise in India under the Raj.[7] By the 1890s the Calcutta industry could rightly regard itself as by far the most important in the world, and Dundee as a minor player. However, from a Dundonian point of view Indian competition was becoming the defining issue, Indian jute goods not only capturing British export markets, but beginning to be purchased in Britain. This competition from India was evident from the 1880s, and was combined with the imposition of heavy tariffs on British products by European markets, such as France, Germany and Italy as they built up domestic capacity. [8]

Raw jute use in Dundee peaked in 1902, when 280,000 tons were imported, though the broad picture in the Edwardian period is one of a stagnating trend but with sharp cyclical fluctuations.[9] As these peak dates suggest, the industry was actually a 'pioneer of decline' amongst the staples, its years of maximum prosperity coming around the turn of the century.

The competitive pressure contributed strongly to the characteristic of Dundee jute as low wage industry, and this in turn linked to the widespread employment of women and boys.[10] However, in contrast to the emphasis on decline among the stable industries the comparative productivity performance of the industry, in this period, has led Broadberry to characterise jute as a 'success story', but it was also, as he notes, one where 'technical innovation alone was incapable of changing the fundamental economic position of the industry' in the face of changing international competition.[11]

The inter-war period

The story of jute between the wars is one of almost unrelieved gloom. There is no annual data which wholly summarizes the state of the industry, but gross output halved between 1924 and 1933, and over the same period unemployment approximately trebled.[12] In the short-run the first war had a dual effect on Dundee jute. On the one hand, as with all highly 'globalized' industries, war was very disruptive to established trade patterns. On the other hand, demand for jute manufactures, especially in the form of sandbags, soared. Raw jute imports fell sharply in 1914, rose sharply in 1915, then fell away, so the average level for the war period was approximately two-thirds the level of 1913.[13] After a post-war boom in 1919/1920 came the inter-war depression, though within this overall pattern there were cycles, with notable troughs in the early 1920s and especially in the early 1930s. The main determinant of the prosperity of the industry was exports, and these collapsed in 1921, recovered in the mid 1920s, before collapsing again from 1929, reviving again after the nadir of 1932.[14]

This depression reflected the impact of two forces, both of which operated to a greater or lesser extent on all the staple industries. Characteristic of the inter-war period was the failure of the volume of international trade to recover to its pre-1914 peak. On the one side was increased competition, from new producers or older producers expanding their capacity. In the case of jute, the low levels of international trade fed directly into the weak demand for the product, so global demand was depressed. There was also the beginning of the long-term process of substitution of other raw materials (eg paper) in the production of sacking, and the use of bulk-handling of grain.[15] Within that depressed total, India obtained an increasing share. Indian loom capacity rose from 40,554 in 1918 to around 68,000 by 1939.[16] Throughout the inter-war years the Indian industry suffered from over-capacity, leading the Indian Jute Mills Association (IJMA) to seek to control output to try and keeps prices up. This was only partially successful, in part due to the political dynamics of the IJMA.[17] In consequence of this excess supply, prices in most sectors were impossible for Dundee to compete with, and by the mid-1930s the competitive deterioration of Dundee was manifest in, for the first time, an import surplus with India on jute manufactures. Retained imports of jute goods into Britain (from all sources) rose from 41,000 tons in 1928 to 94,000 by 1938.[18]

Historically the industry had been dominated by family-owned small scale firms. In the inter-war years, in the face of declining overall numbers employed, the average level of employment actually fell, so that according to the Census of Production of 1935, the modal size was in the100-199 employees category.[19] But despite this pattern, there were two important amalgamations in these years, with other firms recapitalizing during the post-war boom.[20] The most important was the creation of Jute Industries Limited in 1921. This amalgamated the interests of one the oldest Dundee textile producers, Cox Brothers, with a number of other firms to create what became easily the largest firm in the industry, by the end of the 1930s having twelve manufacturing establishments as well as merchanting interests.

This amalgamation took place at the same time as many others in staple trades, during the post-1918 boom. These often led to significant problems when that boom collapsed. They were mainly the result of what later generations would call ‘financial engineering’ rather that compelling productive logic. This seems to have been in part the case with Jute Industries, as the amalgamation was carried out largely by financiers from outside the industry. [21] It is not clear how far the new company sought rationalization and common production policies, though it amalgamated the buying of all raw jute early in its existence.[22] Jute Industries continued as a holding company until 1933, when it became a trading company.[23] In 1933 its chairman claimed that in the previous 10 years the company had reduced costs by about 25 per cent, 8 per cent by wage cuts, 17 per cent by ‘economies’.[24] The other significant amalgamation was the creation of Low and Bonar, based largely on the old-established firm of Baxter Brothers, a venture which seems to have been initiated from within the industry.

The industry undoubtedly saw significant technical developments in the inter-war years, especially in spinning processes, and this seems to have been especially prevalent in Jute Industries. New, faster, spindles, made up about 40 per cent of total spindleage in 1938, about a third of these owned by Jute Industries. [25] These new machines were largely installed in old buildings, the only substantial new mill built in this period being the Eagle Mill built by Low and Bonar.

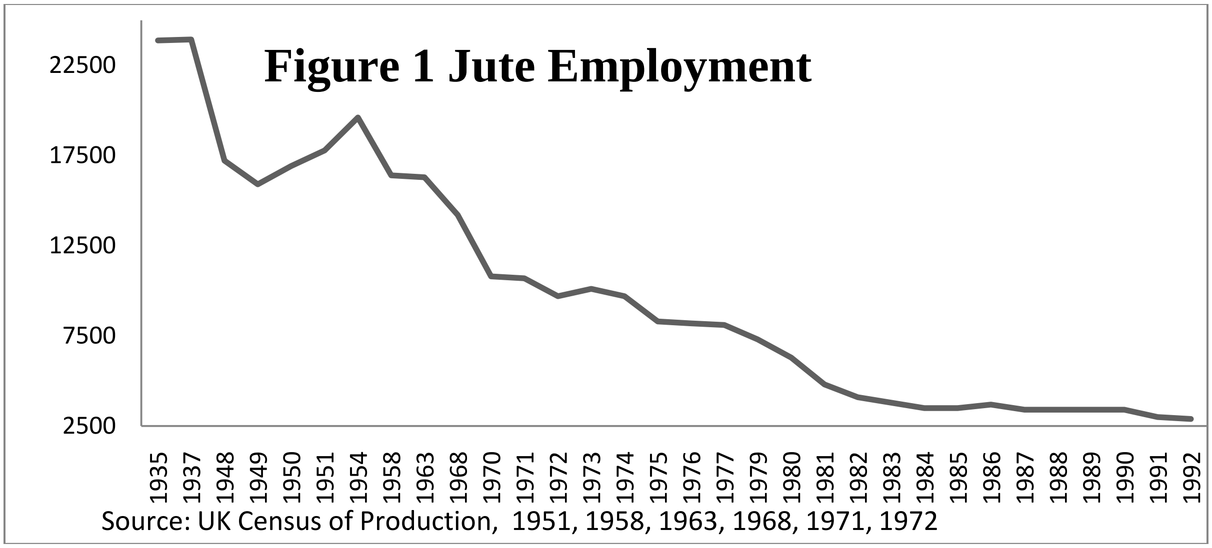
Postwar developments

The first postwar study of the jute industry’s prospects, the UK government’s Working Party Report, constituted in 1946 and chaired by SJL Hardie the Director of British Oxygen Co., documented the perceived wisdom within the industry; one of falling demand about by substitution effects, product market competition deriving from increased international competition within jute products and a geographical concentration with a consequential impact of high local unemployment. The tripartite Working Party membership was made up of equal representatives of the industry, trade unions and Board of Trade appointed independent representatives. From the employers and unions it included RDF Caldwell, representing the Jute Goods Merchants, Spinners and Manufacturers, JW Laird , J Murray-Prain and, importantly the Director of Jute Industries Ltd, WGN Walker, all representing the Jute Spinners, Manufacturers and Merchants who sat alongside the trade union representatives TR Chrystal, representing the Dundee branch of the National Union of Dyers, Bleachers and Textile Workers, R Doyle and TRM Ferguson, representing the Dundee District Union of Jute and Flax Workers and R Macbeth representing the Scottish Union of Power-Loom Tenters. As such therefore the Working Party was always going to produce a report which was sympathetic to the plight of the industry and, not surprisingly, the report concluded with a need for government support and protection for the industry. The price to be extracted from the industry for such protection was to be the further concentration of the industry, with specific proposals for the re-organising of the industry into groups with a minimum of 100,000 spindles of which a minimum of 15,000 spindles were required to be the faster sliver spinning type.[26]

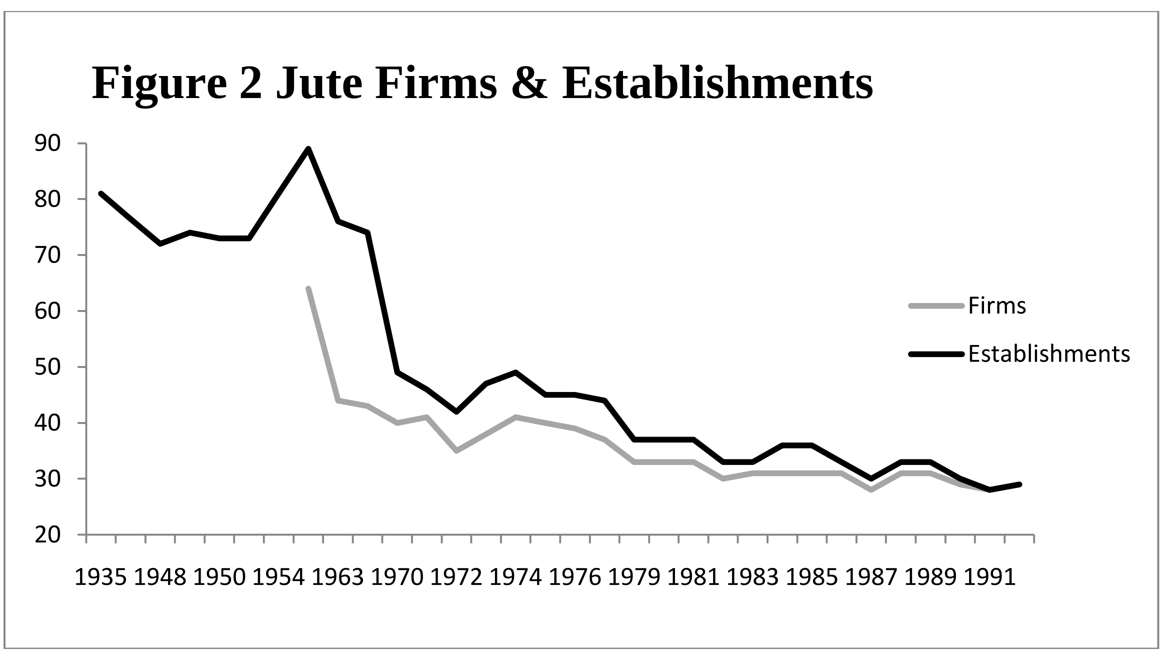
Despite the Working Party's inherent sympathy for the industry it was nevertheless difficult to refute the conclusions data for the interwar industry led to. The most optimistic assessment suggested that even if the industry could achieve output levels of 247,000 tonnes of jute products and cloth, equivalent to total home demand excluding the low cost bag product market satisfied by Indian imports, then assuming the use of modern sliver spinning machines working double shifts approximately only 11,000 workers would be necessary.[27] This corresponded with the private estimates produced by the Board of Trade in 1943 which suggested that while an initial 25,000 workers might be employed during the restocking boom within five to ten years this figure would fall to no more than 10,000.[28] Yet employment in the industry in 1947 was still at 17,000, despite being considerably down from the 32,600 workers in 1936, over 50 per cent higher than the accepted estimates for future labour demand. [29]

The favourable macro economic conditions that persisted into the long boom of the 1950s and 1960s with relatively high growth rates and low inflation undoubtedly provided an environment in which theses changes in the industry could develop. Certainly Symeonidis shows that the suggested rationalisation occurred with the jute industry's largest five firms increasing their market share from 50 per cent in 1958 to 73 per cent by 1975.[30] However, the postwar era was to see a very different pattern of output and profitability within the industry than the Working Party believed. The decline that was envisaged in 1946 was not to emerge in reality until the 1970s. Until then the industry retained a level of employment, investment and profitability that was in contradiction to the Working Party report.

Employment within the industry after initially falling to just under 16,000 in 1949 in fact rose above 19,000 by 1954 before a slow decline such that it was not until 1972 that employment fell below 10,000. Figure 1 demonstrates graphically that the picture of the 1950s does not correspond with that of the immediate postwar predictions of an industry rapidly declining.

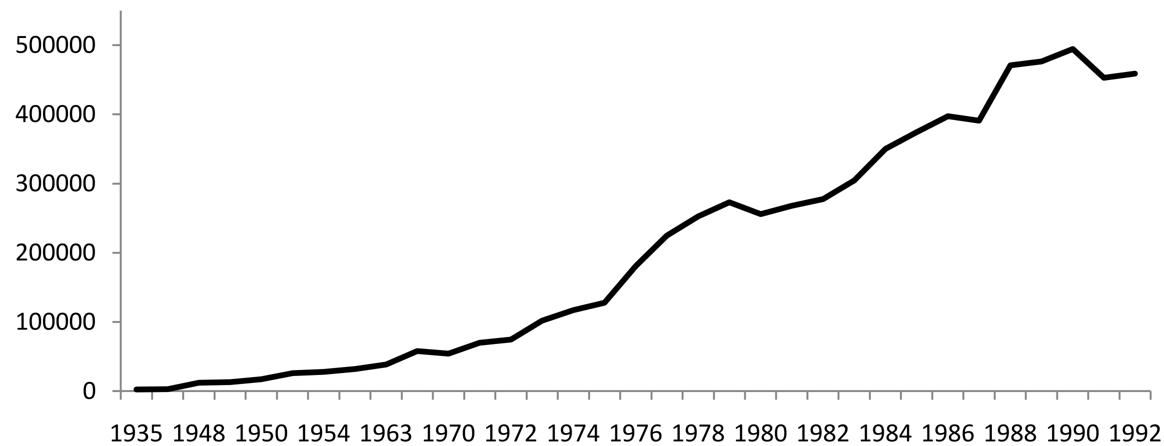


Postwar conditions permitted the sustained expansion of the industry such that by 1958 a new postwar peak of 89 establishments were operating.[31] A similar picture of that of employment can be seen in the number of establishments within the industry such that, as can be seen from Figure 2, it was not until the 1960s that the number of establishments began to fall. It should be noted that due to rationalisation, rather than merger, the number of firms within the industry fell much slower than that of establishments. The expansion of the industry came from an increasing level of specialization and diversification within the jute weaving aspects of the trade. The number of specialist weaving establishments rose from 19 to 30 between 1954 and 1963, whereas the number of spinning establishments fell from 19 to 11 and combined spinning and weaving establishments fell from 26 to 16 over the same period.[32]



The long-term profitability of the industry can also be gauged from the rising levels of real gross output throughout the postwar era. Figure 3 demonstrates that real gross output continuously rose until 1979 when it fell back until 1982 before rising again. The rapid rise in real gross output from the 1970s onwards reflects both the shake out of the industry taking place in the last quarter of the twentieth century and the growth of both related diversification of jute firms particularly into artificial fibres such as polypropylene but also unrelated diversification into new market areas. In addition as the least profitable firms began to exit the industry average profitability in the industry rose for those that remained.

Figure 3 Real Gross Ouput 1963=100



In order to understand these very different patterns of development within the industry it is crucial to understand the centrality of not simply the macro economic advantages provided by the ‘Golden Age’ but also the extent of activity within the industry to maintain or increase profitability. It is here that the role of three distinct elements combine; government protection and inter-firm co-operation after 1939 facilitated and combined with modernisation strategies and finally corporate diversification, aimed to reduce the impact of relative and much later absolute, decline across the wider jute industry. Co-operation permitted the successful management of conflicting short-term interests between firms within each sector and the conflicting long-term interests between differing sectors. Modernisation provided a means to maximise profitability within this protected framework while diversification provided a means to migrate out of the declining jute industry and into related or new areas of business.

Protection

Government control over imports of raw materials and finished goods were widespread during the war. In 1954 these controls over the importation of raw materials and the distribution of goods across private industry were abandoned by the Board of Trade in favour of tariff protection. Exceptionally, however in jute, controls were only modified and direct government trading continued. While the importation of raw jute was decontrolled in 1954 imports of manufactured jute products, in the form of cloth and finished goods, continued through the government body Jute Control. Indeed some imports, those linked to demands of the carpet industry, continued to be banned altogether. Uniquely then Jute Control continued after the period of decontrol providing significant limitations on the development of the industry.

The continuation of Jute Control derived from the inability of the government to utilize either import tariffs or exchange controls as a means of regulating economic activity. The Unlike other industries jute was unable to benefit from the movement towards tariff protection, available to other areas of industry, due to the geographical origin of its raw material. The Ottowa Agreement of 1932 had established free trade under Imperial Preference within the sterling area as a mechanism for protecting the British economy during the 1930s and the sole exporters of raw jute India, after partition joined by Pakistan, was part of this trading agreement.[33]

Jute Control's centralized buying was managed through the distribution of a series of quantity based quotas to existing spinning, weaving, manufacturing and merchanting firms.[34] Thus all imported yarn and cloth flowed through Jute Control and only raw jute imports were in private hands, the private hands of the most concentrated sector of the trade. These quotas were based upon previous consumption and no new entrants were permitted access to the quota system without evidence that they had operated within the trade for the six months prior to the application for a quota. Since a firm could not readily establish without access to jute yarn, cloth or manufactured products, such a restriction acted as an effective barrier to entry either preventing entry altogether or permitting entry only through the support of one of the 110 existing quota holders. Not surprisingly only 5 additional firms were capable of entering into the market over the period from 1955 to 1959.[35]

While for the Board of Trade this arrangement provided the degree of protection to employment in Dundee that governments since the Second World War were committed it also brought with it recognition that the prices charged by Dundee's jute industry were excessive. The Board of Trade by 1956 were consistently contributing £2-3m to the exchequer as a result of its trading activities.[36] The Board of Trade official Mrs R. Esdale explained that the margins Jute Control was operating with were producing these large surpluses. Thus 'Control's purchases are made from the cheapest source of supply, Indian and Pakistan, while their sales into the various sectors of the trade are made at the prices equivalent to the "fair" Dundee price which is a good deal higher than the purchase price.'[37]

Such significant state trading by the Board of Trade was increasingly at odds with the direction of competition policy the government was moving towards. Thus Lewis Robertson, one of the 'three wise men' in the jute industry commented unfavourably on the changing attitude in the Board of Trade's approach to jute control;

> 'It has been obvious at meetings with Eccles [Minister at the Board of Trade] that the fact that Jute Control's being a "control", rather quite apart from any other aspects of its activities, is rather an offence to him. This attitude ("Conservative freedom works") is bound to make them prefer, of two otherwise equal proposals, the one which would suppress the Jute Control and its is also bound to cause Her

> Majesty's Government to oppose fairly strongly any proposal which could be classified as state trading.'[38]

The Restrictive Trade Practices Court action in 1963 demonstrated that this institutional framework had a significant impact on potential entry into all sectors of the trade. With major limitations on the supply of raw jute opportunities for new entrants into the spinning sector were severely curtailed while the quota system for domestic producers acted as an effective entry barrier to the weaving, manufacturing and merchanting sectors of the trade. Competition for the jute industry came therefore primarily from outwith the UK trade, either in the form of substitute goods including the development of paper bagging and synthetic fibres or in the form of international competition, particularly from the more efficient low cost producers in India.

It must be emphasised that neither Jute Control nor the quota allocations for imports automatically prevented the emergence of new firms. Instead what we saw is a rise in the degree of specialisation within the industry. The rise in the number of weaving firms seems to derive from the development of specialist weaving firms focusing upon the production of woven cloth as jute goods for particular product markets. Jute found its way into a wider range of specialist products, especially for example the burgeoning carpet industry as a durable product for backing carpets and suitable for production in wider cloth sizes.[39] This expansion of the industry in the weaving sections provided an area where existing quota holders retained significant opportunities for diversification. One example of this expansion can be seen in the expansion of Jute Industry's Manhatten Works factory in 1949 where government sanction for steel and building materials was required for its development of new weaving facilities to permit circular looms to be employed.[40] More generally McDowall and Draper's study of the impact of protection for trade adjustment suggested that some 95% of Dundee's production by 1963 was in areas where either Jute Control managed imports (40% of Dundee's production) or were banned from imports entirely (55% of Dundee's production).[41]

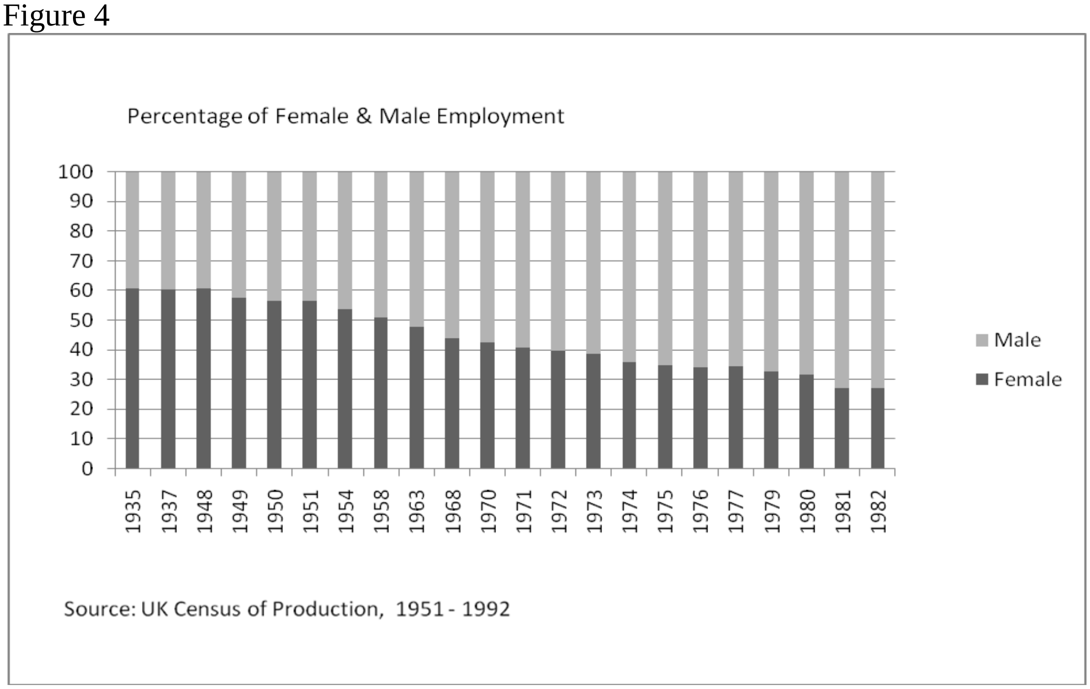
Jute Control then provided a powerful mechanism for encouraging co-operation within the industry and from the 1940s the employers deployed the employment argument with some success, building local coalitions of support, and achieving some influence in national policy.

Modernization

In spite of the influx of new industries in postwar Dundee jute remained Dundee's largest employer until 1966. The industry experienced full employment during the 1950s and 1960s, and although the labour shortage persisted, in the latter decade it would appear that the jute industry ceased its efforts to attract women workers. Perhaps as a result of its limited success in this regard, company nurseries were closed and no further improvements were made in working conditions in terms of 'welfare facilities'. It is possible that the jute industry had accepted that women were not returning as there were more attractive employment options for women in Dundee and instead focused on recruiting men and on lowering its reliance on labour.

As Figure 4 illustrates the percentage of women working in the jute industry declined steadily in the postwar years relative to the percentage of men. In fact between the years 1948 and 1977 male employment in jute industry in Dundee fell by 33 percent, while in the same period female employment was reduced by 78 percent.[42] In the jute industry this translated as a reduction in the ratio of female employees to male from 1.6:1 in 1948 to 0.5:1 in 1977.[43] The major companies made attempts to combat the labour shortage in the industry through capital expenditure on more efficient machinery in order to lower labour requirements. As the retiring President of the Association of Jute Spinners and Manufacturers, Mr J. Raymond Scott, argued in 1950 there seemed no prospect of increasing the present labour force but there was ‘every reason to hope for greater production with existing labour’.[44] In the postwar years many innovations were made, first in spinning and then in weaving. In spinning automatic followed by high speed sliver spindles were introduced, while in weaving individual electric motors, circular looms for bag making, wide looms and automatic cop loading were all introduced.[45] In both processes plant and equipment were modernised. Jute Industries were one of the first companies to invest in a policy of ‘progressive modernisation’ in spinning which included the installation of sliver spinning machinery with ‘considerable progress’ being made in 1949 with regard to the development of automatic weaving.[46] Mechanical developments were slower in automatic weaving as the quality and preparation of the yarn had to be of the highest possible standard and this required experimentation. In contrast by September 1950 it was estimated that 73 percent of the spindles in the jute industry were high speed or sliver which compared favourably with the 1939 figure of 39 percent.[47] However Howe argues that by the early 1960s the industry had ‘certainly passed the peak of its new capital expansion rate’.[48] In addition while Jute Industries, Low & Bonar and other industry leaders modernised in this manner such innovations were not adopted equally across the industry.[49]

Figure 4



This strategy of capital investment was based on the further extension of double shift working in order to ‘write off the new plant over as large an output as possible’, yet as the shortage of labour persisted this strategy could not be wholly successful.[50] Indeed as Howe argues some companies were forced to acquire other businesses to gain more labour as opposed to installing more machinery in their own plants.[51] At least two of the industry leaders, Jute Industries and Low and Bonar suggested that the labour shortage was to blame for their inability to meet the demands of their customers. As early as 1946 Mr Ernest Cox, chairman of Jute Industries, suggested that the labour shortage had 'forced many of our customers to use Calcutta made goods'.[52] He hoped that when the labour shortage was 'overcome' the company would 'regain the ground we have lost temporarily'. The persistence of the labour shortage ensured that this was not the case. Therefore Jute Industries relied on the 'expansion of mass production lines, coupled with modernisation' which it found 'could increase materially the productivity of the industry without a very large increase in the labour force'.[53] A special report on the jute industry published in *The Times* in April 1952 maintained that output in the industry had gradually increased per worker over the period 1930-1951 (see Table 2), with the postwar figures giving 'a general indication of increasing productivity'.[54] Yet the 'special correspondent' felt that further improvements could still be made. Nevertheless Mr W.G.N. Walker, chairman of Jute Industries, suggested that his company's productivity per worker per hour had increased by 'no less than 33 percent' in the last five years as a result of the introduction of 'modern labour-saving machinery and redeployment'.[55]

Table 2

Year	Production (1,000 tonnes)	Workers in spinning and weaving in July of years shown	Year	Production (1,000 tonnes)	Workers in spinning and weaving in July of years shown
1930	137	41,270	1945	72	13,480
1939	177	30,360	1946	88	15,970
1940	150	27,510	1947	93	18,700
1941	112	23,450	1948	99	18,400
1942	101	19,460	1949	88	17,800
1943	82	14,730	1950	104	19,100
1944	75	13,470	1951	112	18,100

Source: *The Times*, 25 April 1952.

The later move of Jute Industries and Low & Bonar into polypropylene production in the early 1960s was another way in which the labour shortage was in some ways overcome. Polypropylene was more capital intensive than jute, therefore although the workers have to have higher levels of skill, output per operative was higher and the companies were able to reduce 'their dependence upon labour'.[56]

Such attempts to make the jute industry increasingly capital intensive further intensified the declining numbers of women working in the industry. The total number of individuals employed by the industry declined in the postwar years, with this being particularly rapid after 1967.[57] The Jute and Flax Workers trade union official Margaret

Fenwick stated that women left the jute industry as the machinery became 'more difficult for the women to handle' and the 'machine charges got greater'.[58]

Modernisation strategies in labour process and employment were also matched in product markets and production itself. Production in the jute industry was concentrated during the Second World War, with sandbags and other 'vital products' for the war efforts being given priority in Jute Industries' Dundee works, with its other factories in the surrounding areas were taken over by the government for munitions production and related industries. While production returned to the 'same basic pattern of trading' in the immediate post-war years, it was clear that the jute bag was being replaced 'as the carrier of the world's goods'. The jute industry in Dundee became increasingly more defensive throughout the post-war years as multi-wall paper, polythene and woven polypropylene sacks, and eventually bulk handling and storage, resulted in a dramatic downturn in trade.[59] Jute was not only threatened as a packaging material, but its dominance in other markets such as carpet and linoleum backing was also threatened in the post-war period by cheaper alternative often man-made materials. Jute Industries and Low & Bonar anticipated such developments and began, in co-operation with the newly formed Jute Research Institute, to improve and diversify its products in an attempt not only to increase sales but to retain markets. Arguably this was the beginning of each company's response in managing the inevitable decline of the market for jute products.

The development of tufted carpet manufacture in the United States in the early 1950s was viewed as 'the biggest and most important development' by the management of Jute Industries.[60] Following research it was found that jute cloth 'proved to be the ideal carrier base for tufted carpet'. As a result a new market was opened up to Jute Industries, first through its subsidiary Jute Industries, New York Ltd, which sold jute cloth in the American market. Tufted carpet was more economical to produce than the woven equivalent due to the production processes involved. As a result it was cheaper for the consumer and became increasingly popular. Thus Jute Industries were able to exploit the expanding British and worldwide market for tufted carpet. In the UK Jute Industries supplied the standard backing in Axminster and Wilton carpets. However, as tufted carpet replaced linoleum in British homes, as 'more people found themselves in the carpet-owning class', the jute industry's gain in the carpet field was countered by its loss derived from the reduction in consumption of jute by linoleum manufacturers.[61] Yet in spite of this in 1972 the management of Jute Industries argued that 'the floorcoverings industry rapidly became jute's major customer', largely as a result of the fact that jute was also used as a base fibre in ancillary products such as underfelts and underlays.

As with other jute product markets Dundee jute companies were not able to maintain their initial competitive advantage in carpet backing in world markets. Their dominance in supplying the US market was challenged by Indian and Pakistani mills who were able to beat the Dundee companies on price as a result of their lower manufacturing overheads, combined with the development of manufacturing facilities which increased efficiency. However Jute Industries further showed initiative through its decision to use its US subsidiary, Jute Industries, New York Ltd, as an agent for the Far East manufacturers. It argued 'if you can't beat them, join them' and suggested that the Indian and Pakistani manufacturers whose products it sold 'benefited from J.I. know-how in the market place'.[62]

Corporate diversification:

According to the management of Jute Industries the United States was also responsible for providing the impetus for its diversification into man-made fibres. It was argued that as

American industry was ‘not keen on placing reliance on outside sources of raw materials’, manufacturers of tufted carpets were keen to develop an alternative to jute, which could be produced and controlled within U.S. borders.[63] In order to combat the threat posed by this Jute Industries began research and development into the possibility of weaving polypropylene plastic tapes for use as a backing cloth in the tufted carpet industry. Low & Bonar shared this view and in 1966 the companies officially joined forces and formed two associate companies, Polytape Ltd which extruded polypropylene tapes and Synthetic Fabrics (Scotland) Ltd which produced and marketed woven polypropylene fabrics. The formation of these companies allowed both Jute Industries and Low & Bonar to retain a large share of the British market for primary tufted carpet backing as well as exports.

Polytape and Synthetic Fabrics would later also play a prominent role in the development of fibrillated yarns, which were marketed to both home and export markets. Yet in spite of this in June 1977 Jute Industries (Sidlaw)[64] released a statement to the Stock Exchange which outlined the sale of its interests, in these companies and N.V. Fibrilo S.A. to Low & Bonar.[65] Jute Industries received £915,000 in cash. While these companies had been struggling to maintain profit levels, this statement suggested that the trading performance of the three companies had improved and Low & Bonar anticipated a ‘better outcome’ for the following year. The accompanying press release stated that ‘for some time’ Low & Bonar and Jute Industries (Sidlaw) had ‘considered it desirable and indeed necessary for the future development of Polytape and Synthetic Fabrics that one partner should be in control of the companies’.[66] While it was suggested that both companies had ‘seperately been planning the development course of their respective textiles divisions’ with this being ‘an appropriate time to make the move now announced’, it may be telling that Jute Industries (Sidlaw) intended to use the money received to ‘reduce its borrowings’.[67] Mr Gilbert, Chief Executive of Low & Bonar stated that no redundancies would be made and added that the company intended to ‘make substantial investments in both companies in the future and are sure that these companies will continue to be a significant force in their market areas’.[68]

In order to survive in a market, which featured a decreasing demand for jute products, Jute Industries also diversified into other related fields. By 1972 it was argued that ‘jute has not been the sole interest of the organisation’.[69] From its formation Jute Industries had incorporated the activities of Stanley Mills, one of the oldest cotton mills in Europe, established in 1785. Stanley Mills continued to spin cotton yarns and weave cotton for machinery drives and cigarette filters until the late 1960s. Similarly following the acquisition of Baxter Brothers & Co Ltd in 1924, Low & Bonar continued to spin, bleach, weave, finish and dye flax.[70] However, Jute Industries began to introduce experimental weaving trials of extruded tapes in its newly formed ‘Tape Department’ within Stanley Mills from 1967 spending £143,000.[71] Six years later in 1979 Jute Industries (Sidlaw) sold Stanley Mills, including land and buildings in Stanley village, to a new company entitled ‘Stanley Mills (Scotland) Ltd’ formed by private industrialists in partnership with the Scottish Development Agency. Stanley Mills continued to specialise in synthetic yarns, in this case for knitting and weaving.

In the early 1970s Jute Industries also acquired Thomas Gill & Sons Ltd, a Yorkshire firm which produced man-made yarns for the tufted carpet industry. To keep its presence in the European and US markets Jute Industries also invested a fifty percent share in Cordova Spinners Inc, in Cordova, Alabama, which spins yarns for the tufted carpet industry and a twenty-five percent share in N.V. Fibrilo of Zele Belgium which spins polypropylene for similar purposes. However, Jute Industries also maintained interests in other textiles including furnishing and upholstery fabrics such as linen and man-made fibres woven at the company’s Brechin factory in Angus. In 1972 it also acquired control of South Mills

(Textiles) Ltd, which had flax, synthetic (mainly rayon) and jute textile interests, which was established as a wholly owned subsidiary.

Low & Bonar also continued to invest in artificial fibres as a route for diversification. In 1980 it invested $1 million, through its Canadian subsidiary Bonar & Beamis Limited, in two low density polyethylene extruders, which had the capacity to produce three million pounds of film a year.[72] However in the same year, and as a result of the 'serious recession in the UK woven carpet industry' Low & Bonar decided to reduce the output of Polytape as demand had declined. The company was also to be rationalised with production being concentrated to one site, Caldrum Works, with the closure of Bow Bridge Works and the loss of forty jobs.[73] In the late 1970s Jute Industries (Sidlaw) were also very deliberately moving away from synthetic fabrics, as a result of the declining profitability of these sectors.[74]

Jute Industries had begun investing outside of the textile industries in the 1950s and1960s with acquisitions of companies involved in engineering and engineering design as well as 'overhead handling equipment' such as specialist cranes.[75] Diversified investment became a larger feature of the Jute Industries' operations from 1971 when the Board decided to change its name in favour of one that would 'not tie it so closely to one single fibre'. After consultation the Board decided upon 'Sidlaw Industries Ltd', with 'Sidlaw' being taken from the range of hills which overlook the company's Dundee headquarters, as is illustrated in Figure 5.[76]

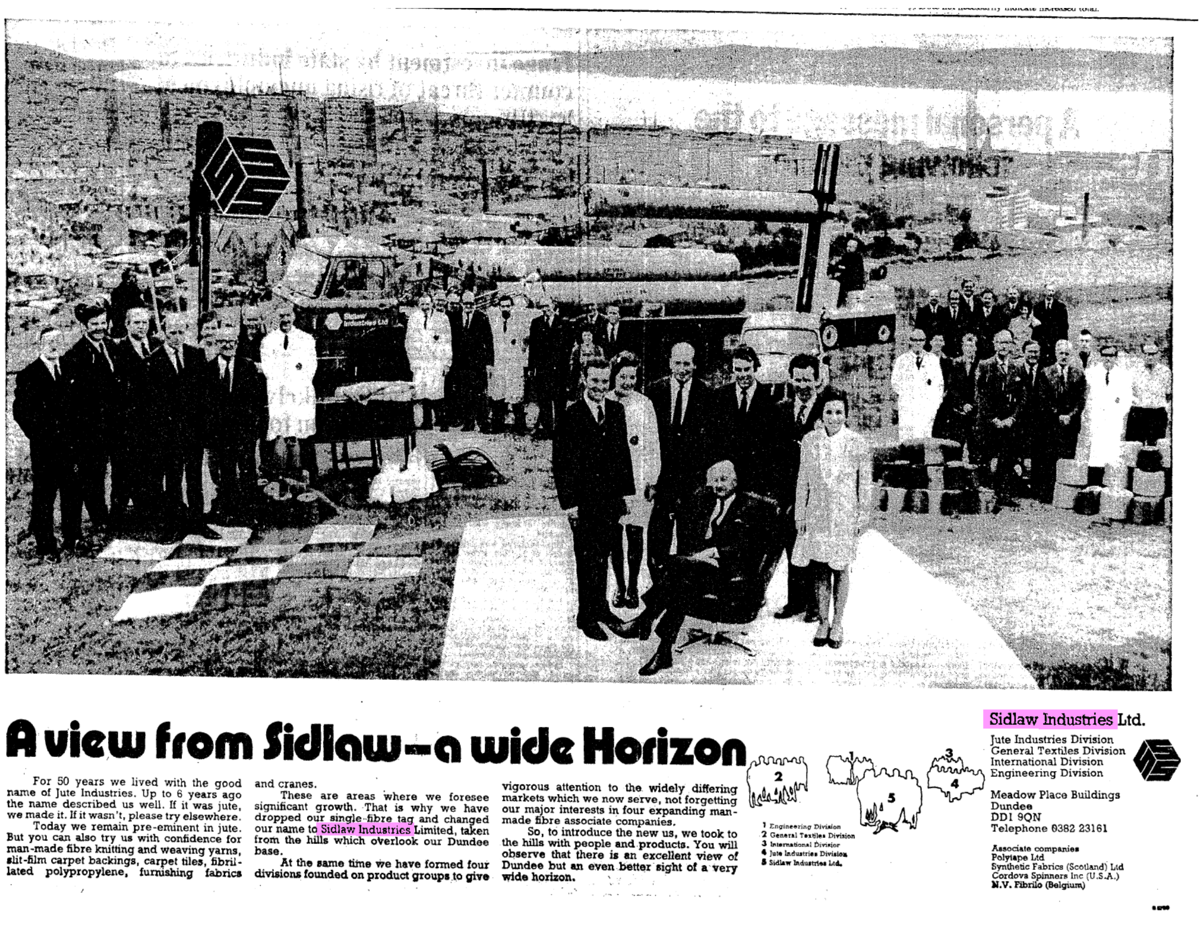


Figure 5 - *The Times*, Wednesday, 6 October, 1971, p. 19.

In March 1972 diversification outside of textiles continued into further directions when Sidlaw acquired Aberdeen Service Company, a private partnership exploiting the early opportunities in providing services for the exploration and drilling companies operating in the North Sea. At this time the management had informed its employees in *Sidlaw News* that it intended 'to get closely involved with the exciting world of North Sea Oil'.[77] This is exactly what the company did. A year later it also invested twenty percent of the equity for Seaforth Maritime Ltd a company which built and rented workboats for the industry. In 1974 when the Scottish Secretary of State, William Ross, opened Aberdeen Service Company's Peterhead Base, it was suggested that 'there was no need to emphasise the fact that this joint government / private enterprise project was already a success' as 'the bows of moored rig supply boats towered over the VIP platform, cranes swung drill pipe and casing from quay to deck and forklift trucks scurried about like demented beetles'.[78] Sidlaw also provided twenty percent of the equity of Grampian Developments Ltd, a company which was originally formed to develop land near Dyce Airport, Aberdeen, and whose first project was to build a hotel. The company later became Skean Dhu Ltd and built a number of hotels and office buildings in Aberdeen. Sidlaw increased its interest in Skean Dhu Ltd to 31.4 percent in 1980, with a third hotel opening in Aberdeen. Sidlaw later sold its shares in this company for £4,638,509.[79] Therefore Sidlaw's interests in the North-East of Scotland were substantial and Sidlaw gained first mover advantages under the leadership of Sir John Carmichael, in being an early investor in the development of services for the North Sea oil industry.
In the 1980s Sidlaw investment in the North East of Scotland continued. In February 1980 Sidlaw acquired Supply Ship Services (UK) Ltd, a private company which supplied bonded goods to the North Sea oil industry through Aberdeen and Peterhead.[80] While Sidlaw's Textiles Division produced losses in March 1980, the profits gained by the Oil Services Division resulted in a 'policy of expansion in oil-related activities in the North-East of Scotland'.[81]

Low & Bonar had developed a focus outside jute and textiles earlier than Jute Industries through its controlling interest in Bonar, Long & Company Limited, a manufacturer of electrical power transformers and other ancillary equipment. This acquisition enabled Low & Bonar to further diversify into overseas markets, with products being 'shipped to all parts of the world' with export trade representing nearly forty percent of the total production output.[82] Indeed investment internationally in the form of establishing branches, subsidiaries or associated companies was a strategy that was adopted by Low & Bonar much earlier than Jute Industries. In the mid 1950s the company stated in a promotional brochure that 'the merchanting scope of the parent company' had been extended with its 'Commonwealth interests', both manufacturing and merchanting activities, being built up through acquisitions and expansion. This included the establishment, through a subsidiary, Thomas Bonar & Company Limited, of a widespread merchanting and bag-making organisation in Canada. Low & Bonar also formed 'a merchanting and making-up business in all of the main centres of both the Union of South Africa and Southern Rhodesia', with branches being established in Kenya, Uganda, Tanganyika, and other East African territories in 1950.[83] It was argued that 'these very substantial Commonwealth interests have proved important factors in the expansion and well-being of our company'.[84] In fact in 1977 49 percent of Low & Bonar's profit came from its African operations, with 24.2 percent from the UK/EEC and 26.6

percent from Canada.[85] However in September 1979 the company reduced its shareholding in Nigeria as a result of 'the economic situation prevailing in other parts of Africa'.[86] International investment continued with the acquisition of Stranger & Company Limited in Melbourne Australia, which produced high and medium voltage electrical equipment, in 1980. The company stated that this would provide 'a direct base in Australia and access to the important markets of south-east Asia and the Pacific basin'.[87] A year later Low & Bonar purchased a 15% holding in Electrical Equipment Limited in Sydney, creating 'a valuable trade and technological link welcomed by both organisations'.[88]

Thus related and un-related diversification provided new investment opportunities for the major jute manufacturers as the decline in the staple textile industry took hold. One major jute manufacturer moved into the oil industry through the combination of its technological progression from textile manufacturing to artifical fibres, its locational expertise in developing overhead capital formation in the North East of Scotland and its linkages to social capital in the development of Scottish industry. A further major player moved into manufacturing and utilized its knowledge of developing economies to pursue new interests. This evolution itself seems to have been underpinned by the ability of the industrial base in jute to continue within a framework of protectionism offered in the postwar decades.

Conclusion

In the context of this broad summary of the responses of jute to decline, this paper has used a focus on protection, modernization and diversification to highlight the development and implementation of strategies aimed at mitigating industrial decline. We have highlighted the collective action undertaken by the industry's employers to organize themselves in the face of mounting competitive pressures. Our research suggests that employers were capable of initiating and sustaining effective collective action aimed at crating a stable market environment. For employers a stable market environment was understood not simply as controlling both price and market competition but extending into ensuring that their underlying profitability, in jute, was protected while they initiated and developed new capabilities in related and unrelated industries. Central to the success of this collective action was the role played by government in promoting and maintaining a system of market regulation which facilitated inter-firm collaborative strategies.

This research suggests that the 'bargain', whereby government gave protection to the industry, in exchange for the industry's commitment to improve efficiency, and codified in the 1948 Working Party Report was crucial to the successful management of decline in the jute industry. Further the 'bargain' was reinforced by the limited extent of the Restrictive Trade Practices Court ruling in 1963 and provided, as McDowal and Draper maintain, a breathing space for the major firms in the industry to generate new competitive strategies. From the Government's perspective this in many ways might be suggested to have been a successful management of decline, avoiding the return of large-scale mass unemployment that occurred in Dundee in the 1930s or in terms of the later absolute decline of other staple industries, such as the steel or mining industries in the 1980s the political conflict and social problems that were a hallmark of the Thatcher era.[89]

Finally, this study throws open a question of how economic and business historians conceptualise relative economic decline? We can readily identify relative economic decline in the jute industry in this period but only by being surprised that other countries, in this case India, underwent industrialization, or alternatively, by ignoring relatively good performance for most of the 'Golden Age'. Similarly, a focus upon 'decline' requires us to set aside the developmental path of companies such as Jute Industries and Low and Bonar undertook as they diversified away from jute and focus upon one part of their history.

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[1] D. Chapman, 'The Establishment of the Jute Industry: a Problem of Location Theory?', *Review of Economic Studies, 6* (19380, pp.33-55.

[2] C. Whatley (ed), *The Remaking of Juteopolis: Dundee circa 1891-1991* (Dundee, Abertay Historical society, 1992).

[3] British Association, *A Scientific survey of Dundee and District* (London, 1939), p.84.

[4] Dundee's exports of piece goods to the USA fell from 28.1 million yards in the first four months of 1907 to 17.7 million in the same period of 1908—a fall of almost 40 per cent: *Economist* Vol. LXVI, 'Monthly Trade Supplement' May 1908, p.13.

[5] B. Lenman, C. Lythe, E. Gauldie, *Dundee and its Textile Industry*, Abertay Historical Society (Dundee, 1969) Appendix II; Dundee University Archives (DUA) MS 15/1 O. Graham, 'Dundee Jute Industry 1828-1928' unpublished manuscript, Dundee, 1929, chapter 7. The only business history of an individual jute (and linen) company we have is C. Whatley, *Onward from Osnaburgs: The Rise and Progress of a Scottish Textile Company: Don and Low of Forfar 1792-1992* (Edinburgh, 1992).

[6] There is a large literature on the Calcutta jute industry and its relationship with Dundee. See: D. Wallace, *The Romance of Jute: a Short History of the Calcutta Jute Mill Industry 1855-1909* (Calcutta, 1909); A. Bagchi, *Foreign investment in India* , (Cambridge, 1972); G. Stewart *Jute and Empire* (Manchester, 1998); B.R.Tomlinson. 'British Business in India 1860-1970' in R. Davenport-Hines and G. Jones (eds), *British Business in Asia since 1860* (Cambridge, 1989), pp.96-100.

[7] T. Sethia. 'The Rise of the Jute Manufacturing Industry in Colonial India: A Global Perspective' *Journal of World History* 7 (1996). pp.71-99.

[8] I. Menzies and D. Chapman, 'The Jute Industry' in H. Silverman, (ed) *Studies in Industrial Organization* (1946), p.237.

[9] Lenman, Lythe, and Gauldie, *Dundee and its Textile Industry*, Appendix II.

[10] Dundee Social Union, *Report on Housing and Industrial Conditions in Dundee* (Dundee, John Leng, 1905), DUA MS 134 D. Lennox 'Working Class Life in Dundee for 25 years 1878 to 1903' (Unpublished manuscript, 1928).

[11] S. Broadberry, *The Productivity Race* (Cambridge 1997), p.193; Lenman et al, *Dundee*, p.54.

[12] Board of Trade, *Working Party Reports: Jute* (1948), pp. 11, 44.

[13] Board of Trade, *Jute*, p.116; see also P. Ollerenshaw, 'Stagnation, War and Depression: The UK Linen Industry 1900-1930' in B. Collins and P.Ollerenshaw (eds), *The European Linen Industry in Historical Perspective* (Oxford, 2003), pp.292-3. Some firms did better than this: A. Cooke, *Baxter's Of Dundee* (Dundee, 1980), p.22 which shows Baxter's output doubling in the war period.

[14] Ibid., p.10; Menzies and Chapman, 'Jute industry', p. 257.

[15] Global demand between the wars

[16] Board of Trade, *Jute*, p.11.

[17] B.Gupta. 'Why did Collusion Fail? The Indian Jute Industry in the Inter-war Years', *Business History* 47 (2005), pp.532-552; Menzies and Chapman, 'Jute Industry', p.252.

[18] Board of Trade, *Jute*, pp. 9-10.

[19] Menzies and Chapman, 'Jute Industry', p.243.

[20] Cooke, *Baxter's*, p.22.

[21] Ibid., p.245. Hannah, *Rise of the Corporate Economy*, pp. 60, 104; J. Jackson, 'Leading Industries' in Jackson, ed., *The Third Statistical Account of Scotland: the City of Dundee* (Arbroath, 1979), pp.118-124; S.

Howe, *The Dundee Textile Industries 1960-1977: Decline and Diversification* (Aberdeen 1982), pp. 13, 73-79.

[22] JIL AGM 1922, in *Courier*, 20 February 1922.

[23] JIL AGM 1934, in *Courier*, 16 January 1934.

[24] JIL AGM 1933, in *Courier*, 16 January 1933.

[25] Board of Trade, *Jute*, p.36.

[26] Working Party Report, Recommendation 1 & 2, p.4.

[27] Board of Trade , *Working Party Report*, 1948, p.50

[28] PRO BT 64/2304, Dundee, August 1943, pp5-6.

[29] Board of Trade , *Working Party Report*, 1948, p.51

[30] Symeonidis G., 2002, The Effects of Competition: Cartel Policy and the Evolution of Strategy and Structure in British Indsutry, London, MIT Press, Table B1.

[31] Board of Trade , Working Party Report, 1948, p.22 and Census of Production, 1963,vol.79, table 1.

[32] Census of Production, 1958, vol.80, table 2 and 1963,vol.79, table 1.

[33] Pollard, S 1983, *The Development of the British Economy 1914-80*, (3rd edition, Edward Arnold, London).

[34] The only exception to this were special arrangements made for two large users of jute bags, Imperial Chemicals Industries and the British Sugar Corporation,

[35] PRO BT 258 832, Restrictive Trade Practices Act 1956, The position of the jute industry, 27th December 1956, p.2.

[36] PRO BT 279 173, Jute : Trading on Public Account.

[37] PRO, BT 258/6 'Jute' note written by R.Esdale 28th December 1956

[38]NLS, Acc 11679 Series 1, 1-5, reference: Ref: btx 29th August 1957 Considerations on Conservative attitudes to control and State trading'

[39] Bartlett, J.N. (XXX), *Carpeting the Millions: The growth of Britain's Carpet industry*, Edinburgh John Donald Press , pp.189-202.

[40] PRO BT64/1641, Regional Report on Building Projects, 10th January 1950, P.2

[41] McDowall S. and Draper P., (1978), *Trade adjustment and the British jute industry: a case study*, derived from *Board of Trade Journal*,

[42] W. Stewart Howe, *The Dundee Textiles Industry, 1960-1977, Decline and Diversification*, AUP, 1982, p. 123.

[43] Ibid.

[44] *The Scotsman*, 17 March 1950.

[45] A *Times* correspondent argued that the introduction of automatic and circular weaving was 'the first important developments of the loom for a century in this industry'. *The Times*, 25 April 1952.

[46] Jute Industries argued that this enabled the company to be 'one of the cheapest producers in the industry' as well as permitting 'higher wages', better working conditions, and a better quality of yarn. *The Scotsman*, 15 March 1949 and *The Times*, 30 March 1949.

[47] *The Scotsman*, 17 March 1949.

[48] Howe, p. 139.

[49] It was also suggested that the failure of some companies to modernise exacerbated the loss of female workers in such establishments to new industries. *The Scotsman*, 24 October 1947.

[50] Howe, p. 124. Yet Jute Industries had more success in expanding shift working with its spinning mills operating 'round the clock' on three shifts by 1963. *The Times*, 21 January 1963.

[51] Ibid, p. 124.

[52] *The Times*, 7 February 1946.

[53] Ibid, 19 March 1951.

[54] Ibid, 25 April 1952.

[55] Ibid, 11 March 1952. The equivalent figure for 1951-1956 was an increase in productivity per worker of 27 percent which Walker again attributed to the installation of modern machinery. *The Times*, 12 March 1956.

[56] Ibid.

[57] Howe, Ibid, p. 145.

[58] DOHP, Transcript 044/A/1.

[59] Sidlaw Industries, 'Background History of Sidlaw Industries Limited', *Historical Records*, MS 66/10/1/12, Dundee University Archives, 1972.

[60] Ibid.
[61] Ibid, the management of Jute Industries argued that 'prior to 1939 carpet buying was very much a middle-class business', while 'the post-1945 situation opened up the market to a much wider cross-section of the populace'.
[62] Ibid.
[63] Ibid.
[64] By which time the company was known as Sidlaw Industries – see below.
[65] This involved the sale of 240,000 'B' Ordinary Shares of £1.00 each (40%) in Polytape Ltd, Dundee, 260,000 4.2% Non-Cumulative Preference Shares of £1.00 each (50%) in Synthetic Fabrics (Scotland) Ltd, Forfar, and 6,000 'A' Shares of B.Frs. 1000 each (25%) N. V. Fibrilo S.A., Belgium. Sidlaw Industries, *Company Announcements*, MS 66/10/15/2/1, 13 June 1977. Also see Low & Bonar, Company Press Releases, MS 24/1/7/1/1, 13 June 1977.
[66] Ibid.
[67] Ibid.
[68] Ibid.
[69] Sidlaw Industries, 'Background History of Sidlaw Industries Limited', *Historical Records,* MS 66/10/1/12, 1972.
[70] Low & Bonar, Company Brochure, DUA, MS 24/1/7/3/1, c. mid 1950s.
[71] Jute Industries (Holding), *General Committee Minute Book*, Dundee University Archives, MS 66/10/1/2/18, 15 June 1970, and ibid, MS66/10/1/2/19, 16 March 1972.
[72] Low & Bonar, *Company Announcements*, MS 24/1/7/1/4, 29 January 1980.
[73] Ibid, MS 24/1/7/1/4, 22 August 1980.
[74] Sidlaw Industries, 'Stanley Mills', *Company Announcements*, MS 66/10/15/2/1, 29 January 1979.
[75] Sidlaw Industries, 'Background History of Sidlaw Industries Limited', *Historical Records,* MS 66/10/1/12, Dundee University Archives, 1972.
[76] Other possible choices were 'Meadowplace Indsutries Ltd' and 'Meadowside Industries Ltd', Jute Industries (Holding), *General Committee Minute Book*, MS 66/10/1/2/19, 28 January 1971.
[77] *Sidlaw News*, MS 66/10/15/1/1, April 1972.
[78] *Sidlaw News*, MS 66/10/15/1/1, September 1974.
[79] Sidlaw Industries, *Company Announcements*, MS 66/10/15/2/1, 22 June 1984.
[80] Ibid, 1 February 1980.
[81] Ibid, 28 March 1980.
[82] Low & Bonar, *Company Brochure*, DUA, MS 24/1/7/3/1, c. mid 1950s.
[83] Ibid. The South African Canvas Co, Johannesburg was established in 1928 and interestingly this merchanting business traded in jute Good from Dundee and Calcutta, as well as flax and cotton goods and other articles.
[84] Ibid.
[85] Low & Bonar, *Company Announcements*, MS 24/1/7/1/1, 26 August 1977.
[86] Ibid, MS 24/1/7/1/3, 17 September 1979.
[87] Ibid, MS 24/1/7/1/4, 7 January 1980.
[88] Ibid, MS 24/1/7/1/5, 16 February 1981.
[89] McDowall S. and Draper P., (1978), *Trade adjustment and the British jute industry: a case study*, derived from *Board of Trade Journal*.