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**Explaining market and enterprise structures in the food
marketing chain**

by

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No. 2002-1 – September 2002

Working Paper Series in

Agricultural and Resource Economics

ISSN 1442 1909

<http://www.une.edu.au/febl/EconStud/wps.htm>

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Explaining market and enterprise structures in the food marketing chain

J.J. Nightingale, R.R. Piggott and G.R. Griffith**

Abstract

Our objective in this paper is to review the origins and main points of theories of firm behaviour used in economic theory and strategic management, with particular reference to the food marketing chain. We argue that while neoclassical economics may provide a robust framework in which to understand market outcomes for long run atomistic competition, such as conventionally modelled by agricultural economists, modern developments in both economics and strategic management add substantially to our ability to explain firm and market structures in the food marketing chain.

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Explaining market and enterprise structures in the food marketing chain.

1. Introduction

SOUTH African retail giant Pick 'n Pay is preparing to launch an aggressive assault on the Australian grocery market, with plans to buy 71 stores. Pick 'n Pay chairman Raymond Ackerman yesterday confirmed the company was in talks to buy 51 Franklins stores and a further 20 from another group -- believed to be independent South African chain Fresco Supermarkets. While the deal had not yet been done, Mr Ackerman said the group hoped to carve a niche in food discounting in NSW, where all the targeted stores are located.

Retail stocks were mixed following the Australian Competition & Consumer Commission announcement this week it had finally agreed to a sell-off of the 287-strong Franklins chain. Shares in Woolworths, which will get 67 Franklins stores, bounced 11c to an intra-day record high of \$10.09 before falling as much as 23c to a low of \$9.73. Woolworths closed down 18.6c at \$9.79. Foodland Associated, which will pick up 35 stores, soared 35c to \$9.25. Rival Coles Myer gained 5c to \$7.23.

"I was in Australia in the 1960s, '70s and '80s, and (Franklins) always had a wonderful name as a no frills discounter," Mr Ackerman said. "Woolworths is a wonderful company and so is Coles but they are big mass food stores like we run here in South Africa. ... We just want to carve a niche in food discounting, because we think there is a place in every country of the world which can compete against the major chains with no frills discounting. And so frankly that is what we are going to do."

Woolworths chief executive Roger Corbett reportedly said the company would take the new competition "very seriously". (*The Australian* 24 May, 2001)

The competitive structure of the Australian food marketing chain has been the focus of several recent studies (Australian Parliament 1999, Griffith 2000, Piggott, *et al.* 2000). The above quote from *The Australian* highlights several aspects of this recent interest: first, that the Australian retail food market is dominated by a small number of large listed companies, including, recently, international companies; second, that such companies place significant emphasis on securing strategic positions in both retail and input markets; and, third, that the fortunes of these major companies hinge on the perceived differences between firms and on the very uneven contours of the market they serve. The occupants of senior management positions are seen, rightly or wrongly, to exemplify such differences in abilities of firms to generate profit in excess of the cost of capital. These abilities are those which develop and implement broad strategies for the firm, meet customers' needs, respond quickly and decisively to both threats and opportunities, and deliver consistent net profits and shareholder value. Senior executives who are perceived to have these abilities (like Roger Corbett at the time of the above quote) engender confidence in the market and deliver a rising share price. Those who are perceived not to have them create doubts among investors. The result is a falling share price.

This type of product and capital market behaviour, cannot be explained by neoclassical theory. Representative firm, and representative agent, models do not yield explanations. It is necessary to look beyond orthodox theory to enable us to understand why it is that these few firms occupy the market, and why their relative performances remain distinct. Strategic management studies have long tried to understand such aspects of economic performance. Much of that literature is itself informed by developments in economic theory that are now

becoming ‘mainstream’ in the academic literature¹. There are a number of strands to this literature. In this paper we wish to focus on one of them, a strand now termed “the resource-advantage theory of competition”, or “sustainable competitive advantage” in the strategic management journals, and “evolutionary economics of firms and markets” in economics journals. Our objective in bringing this literature to the attention of the broader agricultural economics readership is to propose a framework in which the evolution of the firm and market structures in the Australian food marketing chain can be better explained.

2. The Resource-Advantage Theory of Competition

The resource-advantage theory (RAT) of competition is a new phrase for an older set of theories in both economics and management. John Kay is the founder and Chairman of London Economics², Professor at the London Business School, and regular columnist in the *Financial Times*. In his 1996 collection *The Business of Economics*, he writes of faddism and buzzword-bound, guru-centred, fashions in management theory, and the rapid descent of each from management salvation to airport bookstall and remainder bookstore. But in contrast to this depressing picture is his conviction, backed by the success of his consulting business, that economic theory is able to provide scientific substance for management practitioners, whether managers or their consultants. The substance is provided by the resource-advantage theory of competition, mentioned above.

Resource-advantage theory has been expounded recently by Hunt among others (Hunt 1995, 2000; Hunt and Morgan 1995) and reviewed in relation to its application to agribusiness by O’Keefe *et al.* (1996). The following account draws on O’Keefe *et al.* (1996, pp.7-10):

- Resources, and their capabilities, within the firm, and not characteristics common to the industry or the market, are the key determinants of firm profitability. This view is based on empirical evidence which shows that firm effects account for around half of the variation in firm profitability while industry effects account for only around 10 per cent (see for example Rumelt 1991, Scherer and Ross 1990). The strategy of the firm, therefore, should be to actively develop its unique resources to interact with, and influence, its external environment.
- Superior performance and a sustainable competitive position depend primarily on the heterogeneous resources available to the firm (Penrose 1959, Prahalad and Hamel 1990).
- The most valuable resources for generating superior performance are those that are difficult to imitate or substitute for, and that are embedded as “core competencies” within the firm. Thus, firms strive to base their strategic decisions on specialised inputs, or on specialised ways of combining inputs, and on activities or processes that they do very well and that competitors don’t do very well. Significant aspects of these competencies are, in fact, tacit rather than explicit, and thus inherently idiosyncratic (Nelson and Winter 1982, chapter 5).
- Such specialised resources are developed, not acquired, and should have low mobility. The resources to focus on, therefore, are the ‘core competencies’: internal business systems, the external relationships with suppliers and customers, the culture of innovation, growth and superior performance in the firm, and a market orientation which aims to meet customers’ needs. “Supply chain management” is a modern phrase which covers many of these types of specialised resources. Firms do not need to worry about “off the shelf” resources which other firms also access.

¹ Journals such as the *Journal of Evolutionary Economics*, *Economic Dynamics and Structural Change*, *Journal of Economic Behaviour and Organisation* and *Industrial and Corporate Change* as well as the *Economic Journal* and *American Economic Review*, publish papers in the area developed below. It is not surprising that the specialist journals listed also publish papers in business history, institutional economics of many kinds, including ‘Austrian economics’, and game theory.

² London Economics prepared the major report *Competition in Retailing*, for the UK Office of Fair Trading in 1997.

- Good managers are able to “recognise, understand, create, select, implement and modify strategies” (Hunt and Morgan 1995) and, in so doing, transform basic resources into core competencies that will result in superior performance in specific market segments. The choices facing managers are not just the selection of input levels, output levels and technologies. They must select the specific types of outputs and technologies required by specific market segments and the specific types of resources and the organisational learning that develop these resources so that they become core to the firm and result in sustainable profits. The idea of the “learning capacity of the firm” is frequently used to embrace the type of resource development being discussed here, and a carefully differentiated product strategy is often seen as the key outcome of this choice process.
- Finally, competition among firms depends on both comparative advantages in market segments and comparative advantages in firm resources. Hunt’s contribution was the linking together of the production strategy of the firm based on resource-advantages and the customer orientation required to compete in the chosen market segments.

Three comments are required on the skeleton of the resource-advantage theory of competition outlined above. First, the proponents of this theory suggest that the traditional market-based notions of competitive advantage such as barriers to entry and exit, levels of concentration in particular markets, etc., are based on attributes of a firm rather than an industry. The assumption underlying mainstream theory is that differences between firms contesting a market are insignificant. But this mainstream research programme has been remarkably unsuccessful in discovering relationships between market performance and market structure (Scherer and Ross 1990, chs 11 and 18, *passim*; Rumelt 1991). Market characteristics themselves are generally not critical to superior firm performance (O’Keefe *et. al* 1996, p.14). We note above that the factors comprising the RAT explain most but not all of observed firm behaviour in a market. We show in the next section how many of the different notions of competitive advantage interact to determine how firms behave and how they succeed. The analysis is of the firm rather than of the market or the industry, at least in its central focus. In this it is distinct from mainstream neoclassical economic theory, and the industrial organisation theory based on that mainstream, which is about markets rather than firms³.

Second, while many of the recent writers on this subject refer to the theory as “new” (Hunt 1995, Hunt and Morgan 1995, O’Keefe *et al* 1996), in fact the theory has its roots in the economics and business management literature of the 1950s and 1960s (Ansoff 1965, Downie 1958). Many authors now refer to this general area of economic inquiry as “evolutionary economics”. The evolutionary economics framework examines the competitive process, rather than the equilibrium conditions of the mature market, to explain technological trajectories, market structures, variety of firms, products, processes and communities of industries, in much the same spirit as ecologists and evolutionary biologists.

Third, as the term ‘evolutionary’ suggests, history is a critical element in explanation. A ‘snapshot’ of a firm, industry, market or economy cannot be understood without knowing how it got to be where it is at the present time. Unlike neoclassical economic theory which attempts to explain without history, evolutionary theories use history to understand paths of change. Luck, foresight, accident and entrepreneurial creativity all have effects that can be magnified rather than fading away as the results of these events unfold (path dependence and non-ergodicity). For this reason, simulation modelling is an important tool for this type of theory.

As we noted earlier, the business management literature has its own version of this theory, the resource-based theory of business strategy (Ansoff 1965). More recently, some of this literature and some of the economics literature has been brought together in the management journals as noted by Hunt (1995) (although key references to Penrose and Richardson are missed by Hunt). John Kay (1996) has gone so far as to argue that management theory can have meaningful content, and be free of the transient fashions of the latest guru, only by its being firmly based on economic theory, and in particular, the competence or capabilities theory known to

³ It may be thought that we have just described differentiated oligopoly. And that would, to an extent, be true. But unlike the orthodox theories of differentiated oligopoly, the RAT attempts to explain the differences, rather than simply explaining the consequences of those differences for market behaviour or outcomes. The heavy reliance on ad hoc auxiliary assumptions by oligopoly theory is also avoided. Instead, RAT uses the historical – evolutionary methods of systems analysis.

management as the resource-based theory of business strategy. While management and marketing scholars may regard this as another piece of economic imperialism, we hope to show that the ideas they use are firmly based in economics from at least as far back as Alfred Marshall (1890). Rumelt, Schendel and Teece (1991) explain the difference between the management literature and that of economics as that between the application, the pragmatic use of available tools of analysis to solve actual business problems, and the theory, the development of sets of tools that can be used by practitioners. This view is now too simplistic. Management research has a life of its own, but a life that is parallel to that of economic theory, specifically to economic theory beyond the mainstream or core imbibed by all undergraduate economists and elaborated in graduate schools of every hue. RAT represents one of these other streams, parallel to the classical theory of comparative advantage and to modern evolutionary economics.

3. Evolution, Co-ordination, Competition: Firms, their Tacit Knowledge and their Markets

In this section we first explore the significance of the differences between firms for economic performance: diversity is not a distraction, but an essential part of economic life. We then show that the role of human resources in differentiating firms from each other is a major cause of this diversity. The fundamental consequence of diversity is the evolutionary process. Finally, under this heading, we look at the way diversity drives change, and hopefully, progress. Only the stagnant economy of a stationary state will exhibit equilibrium. As long as diversity and proprietary knowledge exists, so investment and change will follow. Long run equilibrium exists only in the absence of what we know as a capitalist market economy.

3.1 Uniqueness and Diversity of Firms

What unites these theories, new and old, is the recognition of the uniqueness of each firm. In neoclassical economics perfect competition is expected to enforce uniformity on firms, and imperfect competition allows 'X-inefficiency' to distort firm costs from the ideal, imposing measurable costs on society. But in evolutionary economics, diversity becomes not only the driver of economic progress, but the very essence of competition. We will see that were textbook perfect competition to obtain, it would bring economic progress to an end (O'Keefe *et al.* 1996). This very strong statement, common to the RAT perspective and antecedent theories, will be defended at a number of points in our argument.

Alfred Marshall was one of the founders of what became neoclassical economics, but he was also the first author to emphasise the firm as an entity, rather than simply the entrepreneur as organiser of transactions between suppliers, artisans, craftsmen, labourers and customers (Groenewegen 1980). In Book IV of the *Principles*, Chapter XIII puts forward the biographical history of the firm and his parable of the trees of the forest (pp 315-7). The diversity of firms competing with each other for marginal advantage, rising and falling with age and vigour, presents a picture of competitive industry in the mid to late 19th century. Perfect knowledge was not part of his thinking: each firm had its own special advantages, resources and market information or contacts. But Marshall had no analytical tools to press forward in that direction. His famous statement that economic biology is the Mecca of the economist was not followed up in his own work (Nightingale 1993).

The first researcher to follow Marshall's lead, but with a set of tools to understand the essential diversity of firms, and the significance of this diversity for market behaviour, was Jack Downie (1958). At any point in time a market will be supplied by a set of firms of varying cost efficiency and profitability in that market at that point in time. The reasons for these differences are in the history of each firm; in particular, past management decisions about investment in people, techniques and marketing strategies. Most importantly, each firm develops its proprietary knowledge, tacit and explicit, about how to serve its markets. The tacit parts of this knowledge are not transferable to other firms, but are inherently locked into the firm at hand. The explicit parts are guarded from rivals, and are seen as creating a market advantage – commercial-in-confidence knowledge. Together, these forms of immobile knowledge place firms in a distribution of efficiency and profit. The implications of this will be examined in 3.3 (below).

Penrose (1959) advanced the argument by looking at why firms have limits on their growth rates. She analysed the growth of the firm as a process of discovering, exploiting and generating specific resources, especially human resources. Every corporation has some slack resources at any time, due to the accidents of history. The incentive to find and use the excess is provided by various market disciplines, especially the capital market, but

also by the goals of management driven by both incentive schemes and professional pride and ambition. Each new use drives the firm into a new corner, with newly created resources generating their own slack, and thus a new opportunity for growth. How fast can this take place? It is limited by the ability of management to control its own growth. If it is too fast existing management will become preoccupied with bedding down the growing management system and people. Routine tasks will be badly handled, efficiency will suffer and profits will fall. The story is one of a business history, of the path taken by each firm being a product of its own beginnings, its particular directions of growth and of the particular environment it finds itself in. No two firms have the same history or make the same choices⁴.

G. B. Richardson (1960) examined the problem of market knowledge in co-ordinating investment by firms related by market interactions, and found that "market" and "organisation" were very inadequate descriptors of what is necessary for that co-ordination. His insight was that if market opportunities did not allow a firm or firms to make a profit greater than the risk-free rate of return on bonds, then no investment would take place. Richardson put it succinctly: a profit opportunity for all is a profit opportunity for none. Seventeen years before Caves and Porter (1977) pointed out that different firms faced different 'entry fees' to a specific profit opportunity, Richardson had carefully analysed the information problem that came between the opportunity and any particular firm. Not only, or even most importantly, is information processing costly, and rationality bounded in the Simon (1972) sense, but information is radically absent.

Moreover, he pointed out, many investment opportunities depend on either or both complementary and competing investments. The former is often dealt with by formation of joint ventures, so that each venturer has certainty about the complementary part of the investment. But the latter is often more problematical. Take a retailing example: a town has three major supermarkets operated by three competitive rivals. The growth rate of the town is close to zero, but, as shops physically wear out, one or more of the supermarkets is heading toward either a major refit or a greenfield rebuild. If one chain invests in a major refit, this will drain trade from the remaining older stores and return more than the chain's investment hurdle. If two chains invest in a major refit, neither will be likely to be sufficiently profitable. If one firm builds a centre from greenfield, and leaves an open lease opportunity for another chain to refit its old site, can it be sure the new store can turn the necessary profit? What if it keeps the lease and refits for a downmarket occupant from its own stable? Can they both out-compete the remaining older operations in town? What if a less ambitious new store in the main street is embarked upon only to be snookered by a major out of town shopping centre? What if ...? So it goes on. The range of possibilities is not endless in practice, but is certainly uncertain! No matter how good the modelling of each possibility is, the retailers are playing a strategic game with multiple Nash equilibria.

Richardson's answer to this was some form of planning, imposed by (in the retail case, local) government, or sanctioned collusion. Nightingale's (1998) suggestion, addressing Richardson directly, was to point out that, as time passed, information about credible investment decisions emerges sequentially. The 'grit in the system' is the lapse of time as decisions are taken, and the sequence of events that lead up to major expenditure events. Private information, rumour and gossip, public statements, deadlines real and contrived, non-negotiable demands of varying credibility, seem to be used to both change and increase the certainty attached to a firm's knowledge of the situation it would enjoy after a decision about its investment in a new retail facility has been made. And, of course, no outcomes are final, for time passes and new investment decisions are made, modified, carried through, and new plays emerge.

For Richardson, information is at the centre of the competitive process. Proprietary information preserves the incentive to participate in the system as it allows private profit to be made. Outcomes from the different holdings of knowledge (capabilities, competencies), drive the competitive process: differential profit rates cause differential growth rates and both the incentive for, and means of, change. A firm with a greater ability to learn will react better to competitive pressures than one that is inflexible. Investment in flexibility is also at a cost, so the positive feedback of innovation is available to those firms which have resources available, as Penrose's analysis implies. Resource advantage is the information that allows a firm to hold on to the material resources necessary to its market position.

⁴ Nightingale (1996) includes an extended exposition of Penrose's ideas.

To complete the links between the evolutionary economics of the firm and RAT with its emphasis on the Austrian elements of uncertainty, disequilibrium and alertness to profit opportunity, the work of Brian Loasby (1991) has to be examined. Loasby is an economist, though claimed as a management theorist by his colleagues in that discipline, whose work began in business history. His contribution was to see that the institutions of the market economy, markets themselves (Loasby 2000), firms and the varying organisational forms taken by firms, co-evolve. This co-evolution is critically dependent on the mixture of knowledge and ignorance held by each of the players, each firm and each institution making up the economic system. It was Loasby who showed how to include ignorance in general in the theory of organisation. The firm is a flexible structure of capabilities that allows production to proceed despite whatever form of ignorance is to the fore. There is no single optimal form for a firm, not even in a single market for a simple output. Each firm is the result of decisions taken under ignorance which is unique to each. Like the Austrians, Loasby sees the importance of the decision maker's vision, the opportunities seen and grasped and the mistakes made. The mixture of ignorance and knowledge yields a number of reasonable, definitely not hyper-rational, responses to any market situation. Incomplete contracts, which are the essential markers of organisation, are, for Loasby, essential to prevent the various forms of radical ignorance, faced in all human endeavour, from putting an end to that endeavour. In other words, hierarchy, the firm, the organised market, and other forms of organisation, are the direct consequence of ignorance (Loasby 1976). In fact, Loasby has pointed out that '(I)n conditions of perfect knowledge, the theory of the firm is very simple: there are no firms' (ibid., p. 70)⁵. Where knowledge is perfect there is no reason for anyone to specialise in particular activities, and there is no opportunity to make a profit different from the average for the world economy. From uncertainty flows everything important about resource advantage: privileged knowledge, diverse abilities and specialisation. Every other aspect of comparative advantage comes down to selective ignorance and exclusive ownership of knowledge.

3.2 The Human Resource Advantage

While much of the RAT perspective relates to the proprietary knowledge embedded within the firm's historically-formed routines and physical endowment, much of what we observe in the corporate environment is the imprinting, by senior managers, of their own vision and style on their companies. The re-structuring that seems to follow the appointment of an outsider to the top job suggests that there is a substantial strategic component in such appointments. Why would a board of directors be willing to pay so much for a CEO if that was not the case?⁶

Much of modern RAT explicitly acknowledges the contribution of the organisation theories of Herbert Simon and James March (see Cyert and March 1963). These theories provide the matrix within which the consequences of asymmetric information and agency problems can be explored. The essence of what is called neo-Weberian organisation theory is the organisation as a shifting coalition of interests, the importance of routines, and the search process where an objective has to be met. The role of the chief executive in this theory is sometimes obscured. However, it is clear that the firm in a competitive marketplace cannot allow its objectives to be determined by sectional interests without compromising its ability to survive. The hierarchical nature of objectives, with financial viability at the peak, implies that the peak decision body of the corporation has a special role in managing the various interest groups within it. The different functions of the corporation, production, finance, marketing, human resource management, logistics, and so on, all have to be brought into a feasible compromise by the head office, or the CEO. It is precisely because of the bounds on rationality under which the firm operates that the role of the CEO is central. This is the reason organisational performance seems to react to changes of leadership. It is not that the endowment of capabilities changes suddenly. We know that it doesn't. It is that the network of interlocking functions is better or worse implemented, that the solutions arrived at by the process of negotiation between functional areas are more or less appropriate to the peak objectives that all are supposed to work toward.

The efficient firm, with substantial discretionary funds, will be the better able to arrive at such solutions. The unprofitable firm will not be able to afford to buy the generous co-operation of, for example, the production,

⁵ It will be clear that this is simply the *reductio ad absurdum* of the argument of Coase (1937).

⁶ One might, if cynical, reply that the board's own remuneration is related to the CEO's remuneration. Conflict of interest does arise here.

marketing and finance departments. Production facilities can be maintained *or* marketing expenditure can be maintained, but not both. Such a situation risks the vicious downward spiral of the firm that can make but not sell, or vice versa. The role of the CEO is of overwhelming importance here, in mediating between functionaries and reviving their efforts to stretch overused resources in hope of succeeding in generating real surplus in the future.

The link from organisation theory to modern evolutionary economics, and its antecedents, is, again, based on the fundamental role of information and ignorance in shaping the institutions of the market economy. The role of the CEO of the corporation becomes the key. First, the co-ordination function mentioned above is required to ensure overall consistency of the corporation's actions. Second, the entrepreneurial function, of seeking, finding and grasping potential opportunities, implied by Penrose's theory of the growth of the firm, requires, or at least works most effectively in a setting of, strong and intelligent central direction⁷.

The resource-based theory of business strategy, as it has developed over 35 years or more, just as the economic theory from which it obtains its core attributes, pre-supposes a unified direction for the firm. It is this direction which enables strategy to be determined and implemented, even if negotiation, compromise and conflict is the behind-the-scenes reality. Only if the firm is under unified control can a strategy be imagined, let alone implemented. The entity must be directed, and the ultimate director is the CEO and the CEO's committees. However, the CEO cannot change everything about a firm or corporation. The tacit knowledge base is beyond reach, by definition. The explicit proprietary knowledge of the firm, embodied in its routines and structures, can be changed only with intensive investment and considerable risk that change will not yield the expected outcomes. But this is where the CEO can impose change, for better or worse, with entrepreneurial command.

3.3 The Evolution of Market Outcomes

We might have shown that firms differ due to varying states of knowledge and ignorance, competencies and direction of vision, and that this is critically affected by the CEO of the organisation, but does this mean anything for the way markets work, as RAT asserts? Our picture of the firm has to be linked to market behaviour and performance before these theories can have any value for decision makers.

If we are to have a theory of competitive process these ideas have to be able to explain, and make predictions about, market outcomes and market structures. In fact we find that evolutionary theories are able to make predictions about all the usual phenomena of price and outputs but also about how market structures evolve and how costs, productivity, profits and market concentration change.

Downie's Transfer Mechanism is the simplest evolutionary model of markets: he suggests that the most efficient and, thus, profitable firms will be able and willing to re-invest in their activities (1958). This re-investment will give these firms a heavier presence in the market. At the other end of the scale, the least efficient and profitable will be neither able, nor willing, to invest and so will be losing market share as time goes by. Market share is thus transferred from the less efficient to the more efficient. This is a progressive competitive system, in that resources are transferred to those best able to use them, but it also implies that market share will become increasingly concentrated upon fewer firms.

The squeezing out of the relatively less efficient, and the pressure on price resulting from the increased investment in production capacity by those best able to profit from it, opens the possibility of increasing concentration and market power. But few markets lose their competitive rivalry, as market contestants rarely stand still. A second process is involved, the diversion of investment funds into innovative activity, to improve the efficiency of innovators. Who would wish to innovate? Who is able to innovate? The profit leaders, relatively secure while making the most rapid gains in market share, may not be the most intent on innovation: 'if

⁷ The younger Schumpeter, of the *Theory of Economic Development* (1911), saw the individual entrepreneur as driving capitalist development. The older Schumpeter, of *Capitalism, Socialism and Democracy* (1943), was pessimistic about capitalism's survival with the onslaught of efficient planning to eliminate extremes of business cycles. The last word of the aged Schumpeter (Harvard University Research Center in Entrepreneurial History 1949) was the hope that the large organisations dominating economic life, post 1945, could routinise innovation, and stave off stagnation that way.

it ain't broke, don't fix it'. At the other extreme, failing firms may wish to innovate, but have neither the funds nor the managerial capability to do so. In between, those firms high up on the efficiency ladder, but not at the top, will have both the incentive and the funds to innovate. Their goal is to leapfrog over the current best practice and set new standards, thus re-setting the Transfer Mechanism in their own favour. If they can improve their profits, and borrow external funds on their improved performance, they can invest these profits and borrowings in rapid increases in market share.

These processes of transfer and innovation are clearly seen in the downstream segments of marketing chains⁸. Retailers can rapidly invest in new outlets and, just as rapidly, divest when their market advantages have been competed away. As long as both Transfer and Innovation Mechanisms are working, the competitive market will survive. Should one of them fail, or be frustrated by restrictions on entry or exit, then market power will emerge. If inefficient firms can hold onto market share, then industry costs and market prices will be stuck at levels which embody monopoly rents to the lucky holders of those shares. If innovation is stifled, then the efficient can look forward to market dominance, squeezing out the inefficient without fear that entry or transformation of existing competitors might compromise their position.

Clearly, without private knowledge and privileged information, investment opportunities would be competed away before they could be enjoyed. All markets, no matter how atomistic, are subject to the lags and resource diversities that create profit opportunities. The theoretical ideal of perfect competition abstracts from this, and leaves us with the caricature that implies no investment could take place if a market really did work in that way. The suggestion remains that if information is too freely available, if news travels too fast, and if nothing is 'commercial in confidence', then the period within which a profit can be made will not be long enough to justify bearing the risk of investing. The competitive market is one in which the incentive to bear risk is sufficient to allow investment and prevent stagnation and the emergence of market power based on an old establishment⁹.

4. Some Current Issues in the Food Marketing Chain

When the resource advantage theories about the direction of, and constraints on, growth is put together with the market process of Downie, we have a template that we can apply to familiar industries, such as the food marketing chain and to the types of strategic behaviour that are exemplified in the opening quote. For example, the ideas contained in the literature reviewed here may better assist in answering the following questions: Is it the case that both mechanisms are in good working order in the food marketing chain? Is the virtue of cost efficiency rewarded? Are there barriers to efficient firms expanding their market shares? Is innovation substantial enough to help well-managed but currently lagging firms to win back market share when they do reduce their costs and improve their market efficiency? How did Coles and Woolworths emerge as dominant retailers, why did Franklins stumble over the past decade? Is the dismemberment of Franklins between Woolworths, Metcash and Pick 'n Pay a good example of these processes? Looking at the longer history of supermarketing in Australia, we can ask why did not the independent retailers maintain a stronger market presence? Why did not the wholesalers to these independents give them the cost efficiency and marketing edge required to meet the expansion of the dominant chains? At this first decade of the 21st Century, has Australia been left with a contestable retail grocery market, or are there effective barriers to innovative expansion by other competitors? Are the time lags in the competitive process just too long, allowing dominant players to enjoy market advantages that amount to monopoly rent?

The paragraph above illustrates the questions to which this body of theoretical and applied evolutionary economics of firms and markets can be applied. It is also the case this theory has progressed much further than

⁸ The farm sector may not be a good example of the Transfer Mechanism, to the extent that it is characterised by decreasing returns. This halts the accretion of market share. Where decreasing returns is not of over-riding importance the Transfer Mechanism may be seen in farm build-up as the more efficient buy up less efficiently managed farms.

⁹ Hartman, *et al.* (1993) argue that US antitrust policy fails to correctly assess market power where technological change is rapid. Competition on product attributes and qualities is ignored by antitrust law, and so may retard innovation and productivity.

mere case studies¹⁰. More generally, we see potential application of RAT models to important issues facing agricultural and agribusiness economics, such as the following:

- At the farm level, it is possible to formulate models to explain enterprise size distribution, fluctuations and reversals in concentration, the durability of family farming in the face of corporate farming and patterns of diffusion of innovation.
- From the farm gate, the institutions of distribution have changed radically over the past century. Marketing boards and producer cooperatives have come, and many have gone, vertical integration in the marketing chain has not followed any simple diffusion pattern but has waxed and waned, taken a wide variety of forms, and been seen as both a danger and salvation for farmers in different times, places and commodity markets.
- Industries processing farm outputs have seen the evolution of high market concentration in many cases, suggesting that scale economies have dominated. We suggest that scale economies are only a part of the explanation, and possibly not a dominant part in some industries. Interaction with retailing, and with the institutions of international trade, may be more important reasons for the emergence of large scale processing and marketing of branded products.

For retailing, the evolution of high levels of market concentration seems more related to entrepreneurial creativity than to simple pre-existing cost advantages to scale in either distribution techniques or marketing. Different development paths seen in advanced market economies suggest this. An explanation that relies on ex post measurement of costs is not an explanation of how it was that that cost advantage was created (London Economics 1997).

It is not the case that the RAT, or evolutionary theory, can resolve all the questions that might be asked. There is an important role for institutional analysis (Williamson 1985) and for agency theory (Putterman and Krosner 1996), as well as game theory, all of which take bounded rationality very seriously. However, evolutionary theory has been described as “‘universal acid’ (Dennett, 1995) dissolving every theoretical receptacle into which it is placed” (Hodgson, 2001). It would, then, seem appropriate to place these ideas within the evolutionary framework, as evolutionary game theory has been already. All of these economic theories, nonetheless, interface with strategic management and marketing, providing the fundamental ideas used by practitioners to resolve business problems (Rumelt, Schendel and Teece 1991).

5. Conclusion

This paper has attempted to show that the resource advantage theory of competitive process makes a substantial contribution to our understanding of the way markets work in the modern economy. In particular, we have looked at the significance of human resources in the large scale, multi-function, corporation such as we find in the food marketing chain. The importance of firm-specific attributes, in addition to market and industry attributes, for economic performance, is the focus of this evolutionary theory. It is the diversity of firm’s

¹⁰ Nelson and Winter (1982) was seminal in this regard. This literature has links with both evolutionary psychology (Plotkin 1994) and the far-from-equilibrium dynamics approach originating with Ilya Prigogine (Prigogine and Stengers 1984) and taken up by the Sant Fe Institute and applied to many phenomena, including economics (Kauffman 1993, Holland 1995). Methods directly dependent on these theories are extensively used for systematic computable modelling exercises with clear predictive value as well as explanatory power. Winter, Kaniovski, and Dosi (2000) present a typical simulation model of a system in which the incumbents have a fixed behaviour character on which selection pressure operates, while entrants introduce innovations which change the population on which the selection pressure operate, in a purely Darwinian process. The outcomes of the simulations are not equilibria, but long term trends and bowls of attraction for variables such as price, numbers and size of firms (concentration), industry average cost, factor productivity and profits. Typically again, they find no convergence on an equilibrium no matter how long the time over which entry and exit take place. Note that this is a model in which only one production technique parameter is subject to shocks, while parameters for demand growth, elasticities, etc. are constant.

characteristics that drives market performance over time. Proprietary knowledge, both tacit and explicit, is both the source of profit opportunities and the cause of investment in innovation and growth of real incomes in the capitalist economy. The role of entrepreneurship, whether the imaginative individual or the strategic planning team in the corporation, is the driving force of the market system. Our suggestion is that these ideas could be successfully applied to explaining the types of strategic market behaviour described in the opening quote of the paper.

6. References

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