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Lachmannian Insights into Strategic Entrepreneurship: Resources, Activities and Routines in a Disequilibrium World

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Abstract

Recent contributions to the organizational literature see the radical subjectivist and disequilibrium framework of Ludwig Lachmann as providing a suitable foundation for strategic entrepreneurial studies, in that his approach seeks independence from conventional equilibrium-based reasoning. In a Lachmannian spirit, this article suggests that strategizing can fruitfully be viewed as choices made by the entrepreneur in terms of the organization's constituent resources, activities and routines together with their recombinations and complexifications. Cast in a general, disequilibrium setting, the strategic goals that guide the organizational entrepreneur's strategizing can be formulated in terms of the construction and capture of resource complementarities, the pursuit of increasing returns through activities reconfiguration; and the generation of learning and dynamic capabilities through reconfiguration of routines. Once formulated in this way, the strategizing issues may be seen to make sense not just in the comparative static and imperfect equilibrium frameworks within which they have hitherto been posed, but in a more general dynamic and disequilibrium setting that corresponds to the real conditions in which firms are required to make entrepreneurial decisions. The simplified framework offers some hope for overcoming the balkanization of management scholarship that is so widely deplored.

Keywords: Strategizing; disequilibrium; resources; activities; routines; entrepreneurship

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Chiles, Bluedorn and Gupta (2007) in a stimulating contribution to *Organization Studies* challenge organization scholars to be bold, and to think in ways that lie outside the narrow confines of frameworks that derive explicitly or implicitly from equilibrium-based economics and its extremely restrictive assumptions. They take up the challenge issued by Gartner et al (1992) to ‘borrow boldly’ and do so by proffering the framework developed by the Austrian economist Ludwig Lachmann as one that has much to commend it as a potential foundation for entrepreneurial and organizational studies. Lachmann is a suitable candidate, Chiles et al argue, because he offers a theory of capital structure for the economy as a whole that is grounded in non-orthodox disequilibrium assumptions. In Lachmann’s world, the capital structure of the economy is its defining characteristic at any moment in time, and it is being continuously made over, through combinations and recombinations of capital goods driven by entrepreneurs who, in seeking to put into effect their production plans, are forced to make adjustments as the plans prove to be mutually incompatible. It is the capital gains and losses derived from the implementation of these production plans that drive the economy, and it is the mutual incompatibility and incommensurability of these disparate plans that is, according to Lachmann, the ultimate source of disequilibrium within which all firms are forced to conduct their affairs. Ultimately, organizations derive their strategic rationale from this ever-shifting capital structure of the business system.

Such an interpretation of Lachmann for an organizational and strategic audience has much to commend it. In this article I take up the challenge issued by Chiles, Bluedorn and Gupta (2007) (henceforth CBG) and take their argument further. They rest their case by alluding to a Lachmannian account of changing capital structure, driven by entrepreneurs’ search for ways of building complementarities between capital goods as a potential source of profit, as one that provides a suitably coherent framework for strategic entrepreneurial studies. I suggest that they stop too short. Lachmann indeed gives us a convincing account of the entrepreneurial

refashioning of the capital structure of the economy through combinations and recombinations of resources. But what of the revenue-generating activities that must be based on these resource combinations, and the ‘competitive forces’ that operate on these activities, as they stretch across the economy in various kinds of value chains? Surely this too has to have a place in a general and coherent account of strategic entrepreneurship. And what, further, of the firm’s operating routines, that are set in place and then monitored and adjusted as needed by managers hired for the purpose? Surely these routines, and the organizational learning or capabilities that they embody, must also form part of a coherent and general account of organizational and strategic entrepreneurship studies.

In this paper I build on CBG in offering a framework for discussing the strategic entrepreneurial dynamics of the firm in a thoroughly Lachmannian spirit but in a way that goes beyond Lachmann’s original contributions and seeks to engage with organizational strategy theories as currently conceived. CBG are concerned to establish that their Lachmannian framework is one that does not derive its legitimacy from the equilibrium-based assumptions of neoclassical economics, and is indeed best formulated in a disequilibrium setting that is consistent with real conditions in the economy.¹ Likewise I too wish to insist that a thorough and coherent foundation for strategic entrepreneurship must stand on its own feet, as it were, and not carry over restrictive assumptions from equilibrium-based economics. But such a framework must engage with what are widely perceived to be dominant approaches to strategy today, namely the Resource-based view (RBV) and the Porter ‘competitive forces’ view.

In this article I argue that a framework that is Lachmannian in spirit can indeed be couched in entirely disequilibrium terms, and provide a generalized alternative to the existing strategy frameworks that are comparative static rather than dynamic in spirit, and apply only in very restrictive settings of imperfect equilibrium. The RBV views the firm’s strategic goals as capturing rents based on the scarcity of resources acquired or controlled, while the Porter competitive forces view sees these goals in terms of the firm capturing monopoly rents based on the ‘scarcity’ of interfirm rivalry in the industry. The two views are essentially duals or complements of each other, in the sense that they view the same firm and its economic location through two different lenses, namely resources and activities (as done originally by Wernerfelt (1984)). But the search for profit is surprisingly absent from these

accounts; firms are instead depicted as seeking ‘rents’ – a concept that makes sense only at an imperfect equilibrium. In the RBV, firms are seeking Ricardian rents based on imperfect markets for resources and resulting resource scarcity, while in the Porter view firms are seeking monopoly rents based on imperfect markets for goods and services where strategy is conceived as a way of maintaining such imperfections (such as through erecting barriers to entry). There must surely be a more general and intuitively straightforward way of characterizing the strategizing behavior of firms in the real, disequilibrium conditions of the business world.

In the spirit of CBG, and in the spirit of Lachmann, I suggest that an alternative starting point for strategic theorizing is available that departs from the standard assumptions of imperfect equilibrium that we find in mainstream approaches to strategy. Such an alternative account can be framed in terms of the elemental categories of business enterprise – resources, activities and the routines that connect them – and in the way that entrepreneurs strategically manipulate these organizational categories in the search for profits. From this starting point, I outline a framework for strategizing couched in terms of these fundamental categories, giving them suggested definitions that not only make sense in themselves but also in terms of their mutual interaction and interdependence. Goals for strategizing associated with each of these elemental categories can then be framed – goals which are oriented towards the earning of profit, and where the profit can be earned away from equilibrium (the general case) by firms taking entrepreneurial initiatives in what Denrell, Fang and Winter (2003) term ‘strategic opportunities’. I suggest, along with CBG and in the spirit of Lachmann, that disequilibrium is the setting for strategizing and organizational reasoning that offers insights not available with the more restrictive assumptions that have been carried over from economics. The framework offered, in that its categories are common across different disciplines like marketing or supply chain management, might also help to overcome the continuing and deplorable balkanization of management (Hambrick 2004).

Language is important, and the terms used carry coded messages. This paper deploys language from three fields of study, namely neoclassical economics, conventional strategy and organization studies. The language of economics turns on efficiency questions judged at a point of equilibrium (indeed, perfect equilibrium). The view of the firm in the neoclassical world banishes uncertainties and matters of judgment; it has no place for entrepreneurship. The language of strategy (at least in its

mainstream Resource-based and competitive forces versions) turns on exploiting market inefficiencies, whether barriers to entry in product markets, or barriers in resource markets (such as inimitability). The view of the firm in this case is to see it as an instrument for exploiting such inefficiencies and capturing rents (which are earnings above normal at a point of imperfect equilibrium); again, a view that is Ricardian in spirit and hostile to entrepreneurial imagination. Then there is the language of organization studies, which ever since the rise of the behavioral theory of the firm has turned on constructs such as bounded rationality, imperfect environmental matching and unresolved conflict (Cyert and March 1963/1992: 215). There are no assumptions of equilibrium – perfect or imperfect – underpinning this language (March 2007). Three sets of terms, three languages – all developing in separate journals, and building walls of mutual incomprehensibility. But management as a discipline calls for a comprehension of problems that span all three languages. That is why I have to use language from all three areas in this paper, because the aim is to build an organizational account of the firm, in the spirit of Lachmann (and the Austrians generally), that can demonstrate how strategizing can generate original profits by entrepreneurial recombinations of resources, activities and routines at the firm level – and to contrast this with the account offered by neoclassical economics and with that offered by conventional strategy discourse. Our framework for strategizing should be consistent with a view of a dynamic, restless, growth-driven industrial economy rather than a pre-industrial economy that is trapped within Ricardian and Malthusian constraints (Clark 2007).

Strategic entrepreneurship

The starting point for any general account of strategizing, viewed as an alternative to conventional neoclassical discourse (focused on the point of perfect equilibrium) and as an alternative to conventional strategy discourse (focused on the region of imperfect equilibrium, where rents can be earned) has to be entrepreneurship. It is the entrepreneur who builds new organizations. Real entrepreneurs in real settings work with uncertainty as to the ‘facts’ of economic life; they make judgments, guesses, and formulate hypotheses based on their expectations. They seek to anticipate events before there are adequate data available. They test hypotheses (in this case market

hypotheses) in more or less the same way that scientists test hypotheses in the laboratory (Harper 1996). They engage in investments that mobilize resources and reconfigure activities. They generate gains and incur losses.

Finally, after many years of neglect (Low and Macmillan 1988) the field of entrepreneurial studies is starting to blossom. The earlier work in the Austrian tradition of authors such as Kirzner is now joined by studies that link entrepreneurship with strategy viewed as a dynamic version of the RBV in a setting of Austrian theories of capital (e.g. Foss and Ishikawa 2007); with capital theory and the economy viewed in terms of heterogeneous capital (Foss et al 2007); with processes of discovery and creativity (Kor et al 2007); with ‘pattern matching’ between market process economics and principles of TQM (Chiles and Choi 2000); and with the beginnings of an Austrian theory of the firm as an alternative to the neoclassical theory (Lewin and Phelan 1999). A new journal on ‘strategic entrepreneurship’ is now being published, and papers that seek to engage with this as a new field are starting to appear – where the field is viewed as extending to encompass domains such as external network formation, organizational learning and innovation (Hitt et al 2001); entrepreneurial mindset, entrepreneurial culture and leadership (Ireland et al 2003); and the nature, discovery and exploitation of entrepreneurial opportunities (Companys and McMullen 2007). Foss et al (2008) for example develop an argument that a consistent application of subjectivism helps to reconcile entrepreneurship theory with the strategic management literature – and particularly with the resource-based view of the firm.

There is already a tendency visible in this new field of strategic entrepreneurship to view entrepreneurial initiative in terms of judgment as an act in itself – rather than as the prelude to making investments, which must remain as the core of a field self-defined as the study of entrepreneurship. Shane and Venkataraman (2000) for example outline their version of a framework that should guide research on entrepreneurship, using as a definition of this field that it is ‘the scholarly examination of how, by whom, and with what effects opportunities to create future goods and services are discovered, evaluated, and exploited’ (2000: 218). They argue that the field involves study of opportunities and their sources; processes of discovery and evaluation; and the set of individuals who discover, evaluate and exploit such opportunities. But it is striking that this list leaves out (at least does not mention explicitly) the study of how businesses are actually founded and how they grow; how

they are diversified; how the entrepreneurial process fits into the wider processes of the economy, and how it meshes with any conception of strategizing. All of these elements, I suggest, must be part of any comprehensive framework that captures the role of entrepreneurial behavior in generating strategic variety and in driving the business system along new pathways. Such an approach might not capture all aspects of entrepreneurial endeavor (e.g. the creation of non-innovative small businesses that compete in local niches) but it should capture the cases that make a difference.

For their part, Foss et al (2008) propose a view of strategic entrepreneurship in a subjectivist context as a creative team act in which heterogeneous mental models interact to create and arrange resources to produce a collective output that is creatively superior to individual output. While these authors make a careful distinction between entrepreneurship as judgment and entrepreneurship as alertness, both discussed in the Austrian tradition, they appear to eliminate from their strategic perspective any entrepreneurial fashioning of fresh revenue-generating activities based on the resources assembled, or the routines needed to link such activities with the underlying resource bundle. In a comprehensive approach to strategic entrepreneurship, all these elements, I submit, need to be seen to be in play.

Finally there is an emerging tendency in the new field of strategic entrepreneurship (associated with scholars at the Fisher College of Business at Ohio State University) to view entrepreneurship itself as a resource, and able thereby to earn entrepreneurial rents. Here the argument goes that entrepreneurial initiative is associated with some identifiable ‘resources’ such as *entrepreneurial cognition* (the recognition of opportunities) and entrepreneurial resource-combining (the exercise of combinative capabilities), brought to the firm by the entrepreneur, and which then earn *entrepreneurial rents*. According to Alvarez and Busenitz (2001: 759) if the insights and decisions reached with entrepreneurial cognition “are indeed rare, if they are difficult to imitate, and if the generated ideas are exploited by the entrepreneurs, then these entrepreneurial insights and decisions are a resource that can potentially lead to a competitive advantage”. There is an infinite regress involved in such an argument: if this kind of ‘entrepreneurial cognition’ is indeed a resource, then it can be offered by its owner to an entrepreneur building a business and as such can attract a rent. So there will have to be another entrepreneur B taking advantage of A’s ‘entrepreneurial cognition’ – and if entrepreneur B also displays entrepreneurial cognition, then his or her cognition will be available to be used by entrepreneur C –

and so on and on we go, in an infinite regress. This is an inescapable implication of characterizing entrepreneurial characteristics as resources which can earn rents. This is why we need a definition of resources that enables entrepreneurs to combine and recombine them in a way that builds on complementarities and thereby generates (original) profits. If we take such an approach, then *entrepreneurship itself cannot be a resource*.

In this paper I target these gaps and inconsistencies in the literature that may be defined by a concern with entrepreneurship as going beyond matters of knowledge and judgment to engage with the real investments made by entrepreneurs as they build firms with distinctive characteristics. In the spirit of Lachmann (and of the Austrian tradition generally), the approach I take in this paper is to provide a strategic account of investments made not in terms of capital and labor but in terms of the three elemental categories of business enterprise, namely resources, activities and their linking routines. Entrepreneurial dynamics in this sense will focus on the combination and recombination of the firm's constituent resources, activities and routines, as entrepreneurs develop investment plans based on these elemental categories. In this way, I build a strategic counterpart to the economic account of entrepreneurship offered by economists (even enlightened economists) such as Bianchi and Henrekson (2005).ⁱⁱ

Drawing these threads together, we may define strategic entrepreneurship as the activity that drives the economy in new directions, through recombination of resources, activities and routines by firms, and the entrepreneur as the economic agent who in principle lacks resources (but knows where to find them), who becomes aware of opportunities that can be turned into profit, and acts to realize these opportunities through resource mobilization and activation in the pursuit of profit. The capitalist institution that supports entrepreneurship is credit, which enables resource-poor entrepreneurs to mobilize business assets and mount challenges to incumbents. This is an approach to entrepreneurship that is entirely consistent with Lachmann's vision of subjective expectations and imagination relating to resource combination and recombination leading to successive capital restructuring at the level of the economy. The goal at the level of the firm is entrepreneurial profit, which may be viewed as the prime motivator of strategizing behavior, and indeed the driving force behind economic dynamics. How then are profits earned?

Profits are earned in disequilibrium

Neoclassical economic discourse never asks where profits come from; they are simply ‘earned’ by factors of production and the focus is on their efficient distribution. Conventional strategy for its part never employs the term profit and instead talks of rents, which can only be earned (by definition) at an imperfect equilibrium, through various kinds of market imperfections. By contrast, we want an account of strategizing by the entrepreneurial firm that is focused on how the firm may create original profits. These can then be distributed to other economic agents, through strategies of imitation and emulation. Conventional approaches to strategy, such as the RBV and Porter framework, sidestep the issue by focusing on rents rather than profits. Perhaps without being aware of the fact, this focus on rents constrains these frameworks to evaluate strategy in the restrictive setting of imperfect equilibrium, and to discuss strategizing in terms of market imperfections rather than the firms’ own actions oriented towards destabilizing the plans launched by others. If profits instead are to be the focus, then there are two aspects to consider – earnings above costs incurred during production of goods or services, and capital gains or losses. For the former, we can do no better than go back to the theory developed by the great American economist, Frank Knight. For the latter, we shall take up the story as bequeathed by Lachmann.

Knightian profit

In his 1921 book, *Risk, Uncertainty and Profit*, and subsequent elaborations, Knight introduced a fundamental distinction between *risk*, which can be observed and, at least in principle, insured against, and *uncertainty*, which cannot be estimated according to a known probability distribution, and can only be resolved by taking some real-world action. He then linked these distinctions to a conception of *profit* which he defined as a pure ‘residual’ income after all contractual payments for factors utilized have been paid. This cleared up the endless debates of the 19th century over whether ‘profit’ should include interest, or wages of management, or a return to a fourth factor of production. Knight then identified residual earnings with the irreducible uncertainty that attaches to every business enterprise. This cleared away

previous confusion over whether profits arose only as a result of dynamics or innovation (the Schumpeterian position), or could result from disturbances of the price system. Knight made it clear that insofar as risks can be insured, they do not enter into profits, and insofar as the services of factors can be paid at a contractual rate (i.e. agreed in advance) they cannot share in the residual. Therefore, the profit as residual accrues to the bearer of uncertainty, the entrepreneur, considered either as an individual or as a firm. Contractual incomes can mitigate the effects of risk, but not of uncertainty. Thus Knight reconciled his vision with neowalrasian orthodoxy, which holds that at equilibrium, all excess earnings, i.e. non-contractual earnings, are reduced to zero.

Knight was at pains to develop a theory of profits that survives a rigorous definition of perfectly competitive equilibrium (and can operate with efficient markets), and makes space for entrepreneurship which is otherwise banished from the neowalrasian system.ⁱⁱⁱ In Knight's scheme, simple (or simplistic) that it is, entrepreneurs gather together as many resources as they need, and undertake production of goods and services, from which they generate revenues. After paying all contractual terms for these (in present or future terms and on efficient factor markets) they keep the residual, either positive (they are in business) or negative (they declare bankruptcy). This is the Knightian definition of 'pure profits' as residual; it is the counterpart of Net Present Value in financial management, which is likewise a residual concept. The point is that at perfectly competitive equilibrium (PCE), such pure profits or NPVs sum to zero. Therefore, as Knight himself says (1942), positive profits must be earned in disequilibrium. This is the region of economic space where entrepreneurs flourish using their imagination, their bounded rationality and making judgments as to what might be the 'facts'. It is the region where we might say that 'strategic opportunities' may be created and seized (Denrell, Fang and Winter 2003).

Lachmannian capital gains

But capital gains and losses are just as important a source of profit for entrepreneurs (Jacobides and Winter 2007). Here we find that Lachmann offers great intuition, in his idea that capital gains and losses at the level of the firm are associated in aggregate with changes in the economy's *capital structure*. Lachmann is at pains to call the object of this activity 'a conception of capital as a *structure*' (1947: 109) as opposed to a conception of a capital stock, because he wants to insist that there is no objective

measure of this structure. It is the outcome of the various investment plans launched by competing entrepreneurs, who will be modifying their proposals as they become aware of each others' initiatives. It is this incommensurability of capital investment projects (production plans) that is the fundamental Lachmannian insight. It is only at a (fictional) equilibrium that all such projects are made commensurable and measurable. And at such a fictional equilibrium, Knight adds the further necessary insight that profits are reduced to zero.

So Lachmann and Knight provide us with the basic framework for the strategizing entrepreneurial firm. The entrepreneur is looking to invest in some novel activity (or in imitation of some other firm's activity) and does so by combining existing resources into some new package that is deemed (or judged) by the entrepreneur as likely to be able to add value in the new situation. There is no way of confirming the calculations involved other than through testing the new combination and its products (goods or services) in the marketplace, against those produced by other entrepreneurs' combinations. Harper (1996) captures this idea in the proposition that every business venture is a test of a market conjecture.

The Lachmann framework: Capital structure and complementarities

CBG and other contributors such as Lewin (1997) give us an excellent launching pad for reformulating organizational studies and entrepreneurial studies in a disequilibrium, Lachmannian setting where the concern is with how entrepreneurs configure and reconfigure the economy's capital structure through combination and recombination of their firms' capital goods. Lachmann introduced as the key concept of capital structure the idea of *complementarity*, where the idea is that capital goods can be considered as complements in a disequilibrium setting if they fit together in a coherent production plan. This is a quite different and richer notion than we see referred to by complementarity vs. substitutability in equilibrium-based microeconomics.

Reformulating the terms used, we may state this insight as one where entrepreneurial firms are seeking out possibilities to use resources and repackaging them in the search for ways of building complementarities, or synergies. Take as an example an investment bank that buys various small telecommunications firms (for

example, having licences covering different parts of the spectrum or covering different regions) and packaging them together as a coherent operating entity and selling it to the highest bidder. This is a profitable enterprise for the investment bank because here the whole is worth much more than the sum of its parts -- precisely because of the complementarities achieved (or synergies). A single firm can put this package to use much more effectively than a group of small firms struggling with their separate resource bundles. So value has been created by the repackaging of these resource bundles – or rather, potential value has been created, since it now has to be put to use in the form of revenue-generating activities. And this might be done well, or badly. But the point being made here is that the value of any resource combination is not determined objectively, but by the strategic and entrepreneurial (read: subjective) calculations made regarding the potential of the combination.^{iv}

Capital structure viewed at the level of the economy is a Lachmannian construct that is formulated deliberately as one that does not rest on any equilibrium assumptions. The capital structure of the economy is necessarily heterogeneous, in that it results from the (usually) conflicting and mutually effacing production plans of different entrepreneurs. By contrast the conception of capital as a stock carries the connotation that its value is being computed at the only point where this idea can make sense, namely at equilibrium. Note that capital structure refers to value, not to physical goods – but to a notion of value that cannot be determined, because it is created by incommensurable production plans and evaluation schemas of competing entrepreneurs. Here we see why Lachmann has fallen into disfavour, even amongst Austrian economists who see him as a dangerous radical opposing the Austrian orthodoxy of von Mises and his followers (e.g. Kirzner, Rothbard). The American exponent of Austrian economics, Rothbard, refers to those who subscribe to Lachmann's ideas as being deluded by 'Lachmannia' (cited in Salerno 2002: 121). The reason is presumably that his radical subjectivism and his insistence that capital structure only makes sense in a setting of disequilibrium seems to sentence economics to a perpetual search for the unattainable.

What CBG invite us to do is to re-evaluate Lachmann from a fresh perspective, namely as providing a framework not for economics but for organizational and strategic studies, where we can make sense of entrepreneurial initiative – and, I would add, of *strategic calculations* by entrepreneurs. These are essentially – fundamentally – subjective in nature. There is no way that we can consider strategic decisions to be

determined; that would be to undermine their character as strategic, or entrepreneurial. If we pose a strategic framework as one that insists that firms will invest in an industry only if that industry reaches a certain level of profitability (which is the upshot of the industry profits vs. firm profits debate) then we are eliminating the very topic of our enquiry, namely how entrepreneurs reach and make subjective strategic decisions regarding their firms. A Lachmannian perspective on this process invites us to view the investment choices in terms of entrepreneurial imagination, creativity, the framing of expectations and the making of judgments – rather than as making choices from a well-defined set of technical and production options, where everything is clear and certain, as in the neoclassical fantasy world.

So while it may not be widely acknowledged, strategic management and organizational science are indeed the legitimate heirs of the subjectivist tradition in Austrian economics, and indeed (as emphasized by CBG) of the radical subjectivist tradition which insists that all strategizing choices are made in conditions of uncertainty (if not ignorance) and disequilibrium, and cannot in principle be given any objective evaluation. This is the position occupied and defended by Lachmann and it is reflected in some of the more sophisticated approaches to characterizing knowledge in organization studies (Whitley 2008). That is why we should all consider ourselves to be Lachmannians now –or, if you like, *pace* Rothbard, we are now all Lachmanniacs.

Strategically building the firm

In the spirit of CBG, let us take a Lachmannian perspective beyond his own concerns with capital structure, into the realm of strategic entrepreneurship and the construction of firms. This brings the focus onto the firm's activities, where resources are put to use, and on the routines that are built to link resources with activities. The aim here is to build a picture of the firm in terms of the elements that are under the direct strategic control of the entrepreneur, and to do so in a way that casts strategizing in a light that is fundamentally different from that which informs the neoclassical picture as well as the conventional strategy picture. My goals are threefold: first, to build a plausible strategic account of the process, by interfacing with existing strategy accounts based on resources, activities and routines (embodying dynamic capabilities); second, to

demonstrate how such an account dispenses with the assumptions forced by neoclassical economics' obsession with equilibrium; and third, to link such an account with Austrian insights into market process, disequilibrium and Lachmann's ideas concerning heterogeneous capital structure subject to constant change under the impact of entrepreneurial calculation. The basic idea is to transpose Lachmann's constructs such as production plans, incommensurability and aggregate capital structure that is necessarily heterogeneous into the strategizing language of choices made with respect to resources, activities and routines, all of which are under direct entrepreneurial control and whose recombinations, carried out in conditions of disequilibrium, can generate original profits. It is the mind of the entrepreneur that brings these elemental business categories to life, and which sets them in motion.

Resources

Let us agree to view resources as the 'atoms' of business, out of which enterprises, and ultimately the economy, are fashioned. Resources may be defined as the productive assets of firms, the means through which activities are accomplished. In the present setting, we may see resources as providing services to the firm, for payment of a contractual fee, implied or explicit. The resources are paid a fixed (or variable) sum – but it is up to the firm, i.e. its owner, to decide how best to employ the resources so acquired or accessed, to generate revenues through activities. It is the firm as a bundle of resources that is important for entrepreneurial decision-making, not the individual resources themselves; this is the essential Penrosean insight that appears to have been lost in recent RBV theorizing (Barney 1995). Original profits are earned by entrepreneurial recombinations of bundles of resources that capture complementarities, or synergies.

Defined in this way, resources are strategic categories, not subject to any objective measurement as a bundle in the way that technologies and production functions may be captured – which is consistent with the 'Austrian' approach to strategy (Jacobson 1992; Roberts and Eisenhardt 2003). To continue with the telco example, the firm once repackaged must now formulate a set of revenue-generating activities to make use of the new bundle of resources, in such a way that is distinctive and can gain the firm a competitive advantage over other firms whose activities and resource are bundled in different ways. The firm might wish to offer a service that utilizes its own telecommunications technology bundle, and seek distinctiveness

through its pricing structure, or through combined billing across different services (covering for example land lines, mobile, voice and data). At the level of activities, which are the duals of resources, there are many ways to package services based on a given bundle of resources in order to generate revenues. This is the province of Lachmannian business plans and plan complementarity, at the firm level, and where the aggregate of the entrepreneurs' firm-level decisions results in a given capital structure for the economy as a whole, subject to the entrepreneurial choices made. The point is that a given bundle of resources might be used in quite different ways by different entrepreneurs – an idea that Lachmann termed the *multiple specificity* of capital goods (Lewin 1999: 123).

How then are resources to be evaluated strategically? If the firm is evaluating resources one by one, then an evaluation may well be made in terms of whether the 'new' resource is valuable, rare, inimitable or specific to the organization concerned (the VRIO criteria elaborated by Barney (1995)). But the firm may evaluate resources according to quite different criteria – as in the case of Micron and Samsung fashioning their entry into the semiconductor industry in the 1980s where resources were acquired externally and evaluated in terms of their *maximum* transferability and *minimal* rarity. In other words, the resources sought by these challenger firms were those that were most easily and cheaply available. These are quite different strategic criteria, such as might be employed by a firm pursuing a 'fast followership' strategy. So the criteria used for evaluation of resources individually *will vary as a function of the strategy pursued*. But if we turn instead to the bundle of resources, following the intuition of Lachmann and later of Penrose, then undoubtedly the firm aims to build a *bundle* that is valuable, rare and difficult to imitate. This is surely axiomatic. The real issue is how such a bundle is to be constructed. What needs to be added to these criteria is the point that the bundle must exhibit synergies or complementarities – capturing the idea that the firm assembled by the entrepreneur *as a whole* must be more valuable than the sum of its parts.

Activities

Resources are used to generate activities, which earn the firm revenues. Activities may thus be contrasted with resources in that they earn revenues, and are tracked on the firm's income statement rather than its balance sheet. But just like aggregate capital structure, the income-generating structure of the economy is fashioned by

strategic choices made by entrepreneurs as they configure and reconfigure their firms' activities, searching to generate efficiencies (as in Porter's cost drivers) or build distinctiveness (as when promoting a new telco with some new billing procedure, utilizing say internet-based accounts). The outcome across the economy as a whole of the combination and recombination of activities is a series of value chains that criss-cross the economy that we might term a heterogeneous activities structure (by analogy with Lachmann's heterogeneous capital structure). In the early years of marketing theory Alderson (1965) came up with a beautiful term for these value chains or activity structures; he called them transvections. It is a term that should be revived, because it refers specifically to the world of strategy and organization and not to equilibrium-based economics. (It is close to Porter's idea of a value chain, which takes his framework well beyond the original competitive forces framework, which is explicitly formulated in an equilibrium setting.) The Porter value chain is a cost concept as compared with the broader scope of the transvection.

In order to accentuate the strategic nature of entrepreneurial recombinations of activities, we need to be able to postulate a strategic goal for such activity recombinations – in a manner analogous to Lachmann's goal of complementarity in relation to recombinations of resources. The most straight-forward way of doing so is to view activities recombination as being performed in pursuit of the creation and capture of *increasing returns*. Here again we find a source of profit that has been eliminated by neoclassical economics by assumption, by fiat, as something that won't make sense at perfect equilibrium. Indeed the equations of the neoclassical system can only be solved, at equilibrium, by assuming constant returns to scale or diminishing returns. Increasing returns, as discussed by such leading economic mavericks as Buchanan and Yoon (1999) or Arthur (1996), create problems for the smooth set of equations. But what might be a problem for a neoclassical economist can be viewed as a source of profit for a real entrepreneur. The creation and capture of increasing returns from recombinations of revenue-generating activities may thus be viewed as a second source of original entrepreneurial profit. This emphasizes why both activities and resources need to be considered (as duals of each other) in any strategic entrepreneurial account of the firm,

Routines

In the spirit of Lachmann (via CBG) we can go one step further. In the real firm, there is a link between resources and activities. This link is created by management routines or business processes or ‘standard operating procedure’ – all phrases utilized in the behavioral theory of the firm and getting at the point that firms largely operate through routinized processes that connect resources with activities and control the activities once implemented. Like resources, routines can be purchased by an entrepreneur in a more or less standardized form (think of software packages for cost accounting and internal logistics control) and then progressively specialized and recombined, lending the firm strategic distinctiveness. Routines are widely viewed as the means through which firms interact with the world (Cohen et al 1996; Dosi et al 2008). The process of improving routines, combining and recombining routines in acts of entrepreneurial imagination and management efficiency, can be captured in a construct of ‘organizational learning’ as the routines themselves become more effective, as is their deployment by the management of the firm. As the routines are improved, so the firm can be said to acquire increasingly sophisticated *competences* (Levitt and March 1988). The broader the range of competences, the greater may be said to be the firm’s *dynamic capabilities* (Teece, Pisano and Shuen 1997). Again the point here is that the neoclassical picture of the firm has no place for such learning effects, and so to focus on them as part of our picture of strategic entrepreneurial behavior is a way of emphasizing the distinctiveness of the strategic way of thinking. To focus on organizational learning is also a way of generating distinctiveness with respect to conventional approaches to strategy, where the focus is on firms’ exploitation of market inefficiencies rather than on capturing original profit opportunities generated by entrepreneurial initiatives such as recombination of routines. The outcome of such actions is what we might call a heterogeneous knowledge structure of the economy as a whole (or dynamic capabilities at both the firm and economy level).

So in a Lachmannian spirit we have a picture of the entrepreneur making subjective evaluations as to the profit potential of recombinations of three fundamental entities found in the business system. The mind of the entrepreneur is itself primary: this is where all the imaginative projections and possible courses of action are first formulated, and where the elemental categories of resources, activities and routines are juggled. Let us trace through this threefold process. First the entrepreneur is

evaluating resources in the formulation of production plans – which when set against the production plans of other firms, all seeking to utilize the same or similar resources but packaging them in different ways, results in an economy-wide capital structure that is entirely heterogeneous, as Lachmann described it. The entrepreneurs are guided in their resource repackaging efforts by the possibilities of constructing and capturing complementarities – interpreted as coherences in production plans, or synergies. As such, they have no counterpart in the neoclassical world that considers matters only at the point of equilibrium. By assumption in neoclassical economics, all complementarities vanish at equilibrium, and only perfect substitutability prevails. In Lachmann’s own words: ‘In a homogenous aggregate each unit is a perfect substitute for every other unit, as drops of water are in a lake. Once we abandon the conception of capital as homogeneous, we should therefore be prepared to find less substitutability and more complementarity. There now emerges at the opposite pole, a conception of capital as structure, in which each capital good has a definite function and in which all such goods are complements’ (1947: 199).

Second, the entrepreneur will utilize this resource bundle to construct or put into effect activities that earn revenues. In the pursuit of this goal the firm configures and reconfigures its value chain – like an IKEA reconfiguring the furniture industry value chain to create a network of dedicated suppliers that can all jointly benefit from the resulting expansion in scale of production. The entrepreneur seeks distinctiveness in creating a structure of more complex activities created out of simpler activities, as described by Denrell Fang and Winter (2003). Entrepreneurial firms are guided in this process by the construction and pursuit of increasing returns – again a source of profit that is reduced to zero at the point of equilibrium, according to the assumptions of neoclassical economics, where only constant returns or diminishing returns prevail. The outcome of such strategizing at the level of the economy as a whole (and the counterpart to Lachmann’s capital structure) is a network of value chains, or heterogeneous activities structure, or what Alderson called transvections -- the ‘threads’ that tie the economy together.

Third, the entrepreneur introduces management into the picture by linking the existing resource bundle to the chosen activities mix through a set of operating routines, which are formulated and monitored and adjusted by managers hired for the purpose. Entrepreneurs are again seen to be creating distinctiveness as they add their own complexity to the routines utilized, building them up in their own way to create

and capture advantages based on causal ambiguity (Reed and DeFilippi 1990), that is to say, based on asymmetries of information as to the source of value creation. The firm may thus be viewed as a bundle of routines as much as a bundle of resources (Penrose) or a bundle of activities (Alderson) – all three facets are needed in a complete strategic entrepreneurial account. And in disequilibrium the firms are guided in this process by the pursuit of organizational learning, i.e. by the building of organizational capabilities that dynamically embody the firm's learning. This again is a source of original profit that has no counterpart in equilibrium-based economics – in that all forms of learning are assumed away in the neoclassical schema. The outcome of these firm-level entrepreneurial initiatives at the level of the economy as a whole is the heterogeneous knowledge structure or 'economic knowledge' whose differential character helps to explain why some economies perform better than others.

In this way we may construct a picture of the entrepreneurially driven economy that is thoroughly Lachmannian in spirit in that it emphasizes sources of original profit such as complementarity and increasing returns and learning by doing that derive from entrepreneurial choices made in general conditions of disequilibrium. Such choices have no counterpart in the neoclassical world. This is a Lachmannian picture insofar as it is based on subjective expectations of the elements involved in entrepreneurial judgments as to the profit-earning potential of new combinations. It is Lachmannian in its insistence that the conditions of entrepreneurial success are not given, but are created, using the tools that are available. And it is Lachmannian in its language, where the emphasis must lie on verbs such as constructing, forming and building, rather than on discovering, finding or responding to objective data (all of which are important, but only a part of the story). Such a Lachmannian picture allows us to frame strategizing choices in terms of the direct sources of profit that are available from combinations and recombinations of the primary elements of business enterprise, namely resources (where the strategic goal is to create complementarities), activities (where the goal is to create and capture increasing returns) and routines (where the goal is to build learning effects). In this way strategizing discourse may be liberated from its dependence on the language of imperfect markets and imperfect equilibria, as in the Ricardian account of the RBV (where rents accrue to firms because of imperfect competition for resources) or the Porter version of the ABV where rents are earned by firms through imperfections in product markets.

Here we have three approaches to strategy as taught in the current textbooks: a competitive forces view, or what I am calling an Activities-based view (ABV); a Resources-based view (RBV); and a Dynamic capabilities perspective (DCP). The literature on strategic management has emphasized the differences between these three approaches, placing primacy either on resources (as in the RBV); or on activities (as in the competitive forces view) or on routines (as in the dynamic capabilities perspective). My concern by contrast is to emphasize their comparabilities, and in particular the duality (or complementarity) between resources and activities *from a strategizing perspective*. (Michael Porter calls for an integrated perspective that respects this duality between resources and his own competitive forces view -- which I am here equating to an activities view, based as it is on cost-based considerations.^v) The key to doing so is to create a clear link between how an organization bundles its activities, resources and their connecting routines, with its manner of *earning profit*. A Knightian account of this process, simple as it is (leaving out of the picture, for example, capital gains, or contributions to profit from uninsured risks), encourages us to view strategizing in terms of direct entrepreneurial choices regarding resources, activities and routines, rather than the exploitation of market imperfections and the capture of rents.

The framework being adopted as an extension of a Lachmannian perspective, is summarized in Table 1. Our concern now is to utilize these fundamental categories of business enterprise to develop a realistic account of how entrepreneurs seek strategic goals in the general case of disequilibrium associated with each of the categories and their elaborations, and how the conventional approaches to strategy may be viewed as special cases (operating at imperfect equilibrium) of this general setting.

Table 1. The elemental categories of business enterprise

<i>Category</i>	<i>Entrepreneurial action</i>	<i>Strategic goal/Source of profit</i>	<i>Economy-wide outcome</i>
Resources	Bundling resources in a	Complementarities	Heterogeneous

	distinctive manner by using entrepreneurial imagination to form production plans		capital structure
Activities	Bundling activities in a distinctive manner by implementing production plans to generate revenue	Increasing returns	Heterogeneous activities structure: Network of value chains
Routines	Bundling routines in a distinctive manner by connecting resources with activities under management control	Organizational learning: Building of dynamic capabilities	Heterogeneous knowledge structure: organizational and 'economic' learning

Three views on strategizing

The Lachmannian framework for building a picture of the firm where entrepreneurial initiative results in the combining and recombining of resources, activities and routines, may now be utilized to generate three views of strategizing. The goal now is to contrast the conventional strategy picture, where firms earn rents because of market imperfections, with a more general disequilibrium picture where entrepreneurial initiative can be viewed as directly generating profits from such sources as the generation and capture of increasing returns. Such an approach will allow us to construct three views of strategizing, corresponding to the manipulation of the three categories of business enterprise, in a completely general (disequilibrium) setting which is the setting assumed in organizational discourse or the language of the behavioral theory of the firm. By contrast, we shall derive special cases where the firm is assumed to be at equilibrium, either imperfect or perfect. At imperfect equilibrium, where rents can be earned because of various market imperfections, we can derive the conventional strategic frameworks based on a Resources view and on competitive forces (or an Activities view). At perfect equilibrium, no such market imperfections exist, and all rents vanish (as indeed do profits). From such a

perspective, we may say that strategizing ceases to have any meaning at neoclassical perfect equilibrium.

Thus we use language from three disciplines. We use the language of neoclassical economics to describe the situation at the (very) special case of perfect equilibrium. We use the language of conventional strategy involving rents, barriers to entry, rarity and nonimitability of resources etc at the special case of imperfect equilibrium. But in the general case, where profits can be generated through entrepreneurial initiatives taken in disequilibrium, we use the language of organization studies, where the focus is on how resources may be combined in order to construct and capture complementarities, or activities may be combined in value chains to generate increasing returns, or routines may be combined and elaborated to generate organizational learning and dynamic capabilities. In the general disequilibrium case, entrepreneurs are viewed as operating with bounded rationality, with imperfect environmental matching or in unresolved conflict – all terms deriving from the behavioral theory of the firm – rather than in responding to perfectly identified and understood ‘facts’ (the neoclassical economics case) or to market imperfections (the conventional strategy case).

In each of the three cases, linked to resources, activities and routines, we wish to identify a strategic goal that can guide entrepreneurial judgment in the pursuit of profit, in a completely general setting where no assumptions as to perfect or imperfect equilibrium are imposed, and where no *ex ante* limits on competitiveness are imposed – a general, disequilibrium setting. In each case, we shall contrast this general setting with the special case of a firm at a point of perfectly competitive equilibrium (as discussed in neoclassical economics) and with the firm in a region of imperfect equilibrium where rents can be earned (as discussed in conventional strategy). Our aim will be to demonstrate how the general disequilibrium case generates complementary insight into the real strategic behavior of entrepreneurs over and above the comparative static, equilibrium-based approaches that have been popular in strategy. The general case enables us to capture real behavior of entrepreneurs in the manner of the behavioral theory of the firm and recent contributions such as those treating behavior in disequilibrium and turbulence (Zappia 2001; Bromiley and Papenhausen 2003; Mathews 2006a; Selsky, Goes and Baburoglu 2007). Real strategizing calls for insights generated from both perspectives – the dynamic as well as the comparative static.

A generalized Resource-based view

From the perspective of the firms' resources, it is the possibility of constructing and capturing synergies through the strategic bundling of resources, based on complementarities, that becomes the focus of strategizing behavior aimed at the earning of profit in disequilibrium. The point of comparison is the standard formulation of the production function, where factors of production (notably capital and labor) are considered to be perfectly homogeneous, perfectly mobile and perfectly substitutable.^{vi} These are necessary conditions for the demonstration of a perfectly competitive equilibrium. But as soon as this unworldly constraint is lifted, the search for ways of building complementarities – as the alternative to substitutability and homogeneity – emerges. This is where Lachmann made his prime contribution and where disequilibrium emerges as the appropriate setting.

The idea of complementarity has a long history in political economy. In static adjustment, complementary and substitute goods are simply understood: goods are held to be complements or substitutes for each other depending on their marginal contributions to the total product, at equilibrium. If their marginal products are positively related, then they are said to be complements: the one entails the other – as is the case when we have economies of scope. If their marginal products are negatively related, then they are said to be substitutes: the one precludes the other. The situation is analyzed at equilibrium, and it is assumed that all prices and combinations of inputs and outputs are known. Substitution occurs if the price of a given good changes; it occurs costlessly and frictionlessly. There is no attempt to consider the situation in disequilibrium or to consider the process of adjustment.

In the dynamic case, where strategizing rules, things are not nearly so simple – as the long debate on complementarity in the theory of capital makes clear. Schumpeter (1912) had discussed the entrepreneur's role in creating 'asset combinations' – but did not go on to explore complementarity in any depth. It was Lachmann (1947; 1956) who first considered the problem in its generality. The point is that complementarities are not created automatically. They have to be found, indeed discovered and constructed as argued by strategy scholars such as Harrison, Hitt, Hoskisson and Ireland (2001). In the generalized case, entrepreneurs are combining and recombining resources in pursuit of profits created by complementarities.

In the special case where the firm finds itself at an imperfect equilibrium, if there are limits imposed on competitive forces then Ricardian rents can be secured. The imperfection lies in the markets for resources, which can be considered as either incomplete or imperfect in the sense that there are restrictions on access to resources (i.e. the resources are scarce). The classic case is that of land, as described by Ricardo – hence the idea of Ricardian rents. Peteraf (1993) provides the foundations for the Ricardian rents approach to strategizing around resources, in imposing both *ex ante* and *ex post* limits to competition in order to ensure that rents can be earned at imperfect equilibrium. No such limits to competition are needed in the general disequilibrium case, where firms seek profit opportunities through constructing and capturing complementarities. What a pity that the RBV sought its antecedents in the work of Ricardo rather than in Lachmann.^{vii}

A generalized Activities-based view

Firms have to make strategic adjustments and take competitive initiatives in terms of their revenue-generating activities. They are endlessly adjusting and reconfiguring their value chains, in response to their evaluation of their own initiatives and those of their competitors – which may be experienced as radical or incremental, or even architectural innovations, to use the language of Henderson and Clark (1990). Apart from lowering costs and achieving distinctiveness (e.g. through the use of Activity-based costing), can we be more precise concerning the strategic goals that entrepreneurs pursue in their deployment of their firms' activities? By contrast with the case of the neoclassical production function, which constrains firms to operate at equilibrium with constant returns to scale, we may in a strategizing perspective consider firms as pursuing increasing returns – which is essentially the idea that greater productivity is being achieved for the same inputs – through the construction of their activity set based on their chosen set of resources.

The conception of increasing returns has a long and troubled history in economics – as detailed by Buchanan and Yoon (1999) and by the well-known difficulties that Arthur (1996) had in securing publication of his work. The imposition of a constant returns restriction was imposed in the neoclassical framework essentially as an arbitrary assumption, to ensure that at equilibrium the sum of marginal products of each factor would 'add up' to the total output. But there is no reason why strategy should be constrained to make such arbitrary assumptions. The pursuit of increasing

returns is a natural setting (a dynamic concept, as compared with the static and technologically determined notion of ‘increasing returns to scale’) in which to frame the configuration and reconfiguration of their value chains of activities by firms – so let us pose the pursuit of increasing returns as the strategic goal involved in strategizing around activities. Whether it is the creation of a more dispersed value chain (as developed by IKEA), or a case of vertically integrating within the value chain, the results sought are *increasing returns*, as the object of the strategizing endeavor applied to the firm’s activities. Capitalism has grown at an extraordinary rate over the past two centuries precisely because firms have been able to create and capture increasing returns.

In the special case of an imperfect equilibrium, as discussed to the exclusion of everything else in the standard accounts of strategy (the RBV and Porter variants) if there are limits to competition in the product markets in which the firm is active, then monopoly rents can be secured. In that case we may say, along with Porter, that the ‘competitive forces’ operating on the firm at that point are weak. Firms will certainly wish to find out what is the state of play regarding the competitive forces impinging on their cost-based activities at any point in time; this is the substance of the Porter approach. But they will also want to know what possibilities might exist for extending the range of their activities so as to create and capture increasing returns that are available only with the passage of time and through commitments that must be made today but which will reap rewards in the future. The generalized case handles strategizing over time, when firms need to make decisions as to when to ramp up their activities and when to ramp them down – as in cyclical industries (Mathews 2005). The possibilities of generating and capturing increasing returns, as defined in the general disequilibrium case, are reduced to zero as the firm approaches the imperfect equilibrium where the profits secured amount to monopoly rents.

A generalized dynamic capabilities perspective

Finally there is the issue of the firm’s routines, which are created by management as a link between the current activities and resources. Strategizing around the configuration of routines by the firm is to be equated with the strategic goal of building dynamic capabilities embodied in organizational learning at different levels. In a word, strategizing by entrepreneurs around their firms’ routines involves them in moving down the ‘organizational learning curve’ (Epple, Argote and Devadas 1991) or

the ‘experience curve’ or ‘learning by doing’ – a wonderful phrase, popularized by the Boston Consulting Group, that conveys the action orientation of an entrepreneurial approach to strategizing. It says that learning only comes through engaging in ventures; it is another form of creative discovery. Note that within the neoclassical production function, there is no ‘learning’ at all, since it is assumed that the firm is always acting at the optimal point on its production frontier.

Teece, Pisano and Shuen (1997) term their view a ‘dynamic capabilities perspective’ (DCP) precisely to differentiate it from the somewhat static approach taken in the conventional RBV and Porter view. The DCP is concerned above all with how firms’ capabilities are fashioned, and adapted to changing economic circumstances – as in the exemplary cases like Intel’s adaptive responses (Burgelman 2002). The DCP makes no obvious appeal to economic equilibrium-based assumptions; nor is it comparative static in its formulation, unlike the conventional RBV and Porter view (Eisenhardt and Martin 2000).^{viii} But then again, it is not immediately clear what is the strategic goal of firms when viewed from the DCP, other than to enhance their capabilities. The generalized case by contrast makes clear that the goal is the improvement of managerial routines (by testing, measurement and evaluation) so as to create ever broader and deeper organizational capabilities. And because the general case handles all possible irregularities and forms of competition, there is no need for any special category of ‘hyper’-competition (Selsky, Goes and Baburoglu 2007).

Strategizing in the general case

Thus we have a picture of the entrepreneurial firm pursuing profits through creation of strategic opportunities and adjustment of its bundle of resources, activities and routines. Associated with this is a picture of the economy as a dynamic aggregate of resources, activities and routines, captured by Lachmann’s original idea of a heterogeneous capital structure and extended by the constructs of the economy as heterogeneous activities structure (intersecting value chains) and heterogeneous knowledge structure, embodying various kinds of capabilities. By contrast with the vision painted by the neoclassical production function, with its emphasis on costless adjustment of perfectly substitutable factors of production in pursuit of technologically determined marginal revenues and marginal costs, this Lachmannian perspective views the entrepreneur as strategically adjusting the firm’s bundle of

resources, activities and routines, in response to shocks received from the business system, or in pursuit of creatively generated strategic opportunities. The strategic goals that we can associate with each of the categories considered are the construction and capture of complementarities from the resource bundle; the generation of increasing returns from the activities bundle; and the creation and capture of learning effects (or building of capabilities) from the bundle of routines. These are all *strategic goals* that can not be reduced to any economic variable at equilibrium; the profits derived from them approach zero as the firm's operating position approaches a (fictional) point of equilibrium.

How then can strategizing behavior be captured in terms of our three elemental categories, to bring our picture closer to managerial reality? We suppose that the entrepreneur starts with simple resources, and builds these, through combination and recombination, into a firm consisting of more complex resource bundles, the valuation of which becomes increasingly more problematic, not only for the firm itself but especially for other firms (causal ambiguity). It is this gap between the valuation possibilities available for the firm that possesses the complex resources (and its knowledge of the sets of activities that are possible with such a set of resources), and the possibilities available for other firms lacking such inside knowledge, *that constitutes the ultimate source of positive NPVs, or positive profits.*

Thus in an economy without firms, i.e. an economy of sole traders, the only profits obtainable would be through arbitrage (dependent on information asymmetries). But in an economy with firms, profits can be generated through the complexity of firms themselves, and their resource-activity bundles; the knowledge available to the entrepreneur regarding the firm's resources and the real options they represent (Kogut and Kulatilaka 2001) over present and future activities, is not available through the market to others (Lewin and Phelan 1999; Denrell, Fang and Winter 2003; Foss and Ishikawa 2007). It is firms themselves, and their organizational structure (their internal valuation procedures over resource complexes), that constitute the ultimate source of an entrepreneurial residual, namely profit – rather than the market imperfections focused on in conventional strategy, and the temporary profits allowed in neoclassical economics before a putative equilibrium is reached.

In the general framework, there is no need to assume that strategic opportunities arise solely from imperfections in strategic factor markets (Barney 1986) nor that *ex ante* or *ex post* limits are needed in competition (Peteraf 1993) nor

that a strategic opportunity exists only when prices fail to reflect the value of a resource's *best* use – as argued by Denrell, Fang and Winter (2003). In a disequilibrium setting, it is sufficient to assume that such an opportunity exists whenever an entrepreneur finds resources priced in such a way that the firm can utilize them more efficiently than the market *at that price* – without necessarily having to discover the *optimal* use of the resources. I see strategic opportunity as being equated with the discovery of an entrepreneurial opportunity where a mismatch between prices and values (as seen from the perspective of the firm with its idiosyncratic bundle of resources) leads to the formulation of a business project that will actually test whether the opportunity is real or not. The entrepreneur has no need to know – and indeed cannot know – whether the firm's business project will make optimal use of the resources. All the entrepreneur needs to know is that he or she can impute a value to the resources, because of the firm's existing resource combination, that is different from the value given by current prices. If we press the argument, an entrepreneur will have discovered the *optimal* use of a firm's resources only at a point of perfectly competitive equilibrium, where everything is used to its maximal efficiency, and all profits are reduced to zero. At such a point, strategizing in any meaningful sense, must have ceased.

The drive behind entrepreneurs' search for positions for their firm in disequilibrium where positive profits can be earned, through new kinds of activities, or new combinations of resources, or new combinations of routines, is spurred by competition. Innovations are introduced, in terms of new combinations of activities, resources or routines, resulting in the displacement of incumbents (or what Schumpeter (1912; 2002) called 'creative destruction' in the economy as a whole) and the drive behind innovation that constitutes capitalism's *raison d'être* (Baumol 2002). New successful positions will attract imitators, and the whittling away of such profits (Augier and Teece 2008). The time-path of profits thus becomes a central feature of strategic industrial dynamics (Jacobson and Hansen 2001). It is the imitability of resources, activities and routines as well as their innovative creation that ultimately drives competition in an open economy, opening the way to entrepreneurial construction of alternatives. This is why we must work with definitions of these categories that allow them to be sourced externally as well as built internally, and why entrepreneurship itself must be held categorically distinct from the resources, activities and routines that are manipulated by entrepreneurial initiative.

Concluding comments: Overcoming the balkanization of management

Donald Hambrick expresses the management teaching dilemma well when he writes: ‘What an irony. Strategic management, the field that documented the virtues of core competences, relatedness and dominant logic, is on the verge of losing any semblance of those qualities in its own intellectual affairs ... Like a supernova that once packed a wallop, our energy is now dissipating and we are quickly growing cold. ... Granted the natural tendency is for an academic field to drift toward specialization, and even specializations, as it matures and accumulates a body of knowledge. But this does not mean that it must lose its core underpinnings, as has happened – and is increasingly happening – in the field of strategic management’ (Hambrick 2004: 91).

Is there a way out of the disintegration of strategic management, and management and organizational thinking generally, alluded to so forcefully by Hambrick? In this article, I have offered a *simple* way forward, with a view to focusing on the core, elementary, strategic categories of management and organization, and seeing whether we can build a workable model of the business enterprise out of them, and an approach to strategic thinking that differentiates it from its antecedents in economic thinking. In fields such as marketing and supply chain management, an approach based on entrepreneurial decisions taken in general conditions of uncertainty and in settings of disequilibrium, involving the general categories of resources, activities and routines, provide more realistic accounts than those based on neoclassical economics reasoning (e.g. firms should develop pricing routines equating prices to marginal costs) or on conventional strategy approaches (e.g. supply chain portfolio management). If the same approach is taken to all other management tasks, including HRM, financial management, operations management etc then we have at least the beginnings of a coherent foundation that can unify teaching, or at least make it consistent, rather than balkanize it as at present. Moreover, such an approach is specific to management and organization as a discipline, and can be seen to owe nothing to equilibrium-based economics.

This article is directed to an organizational, entrepreneurial and strategy audience, in defence of the proposition that organization and strategy – and in

particular the emerging field of strategic entrepreneurship – would benefit from an approach that differentiates the field clearly and unambiguously from economic reasoning, on the one hand, and from conventional strategy on the other. My aim has been to demonstrate that it is possible to take Lachmann and other Austrian theorists seriously, not only in their own terms as applied to disequilibrium accounts of economics – as in market process theory and entrepreneurial dynamics -- but also (and possibly more significantly) as guides to the formulation of a consistently disequilibrium-based approach to entrepreneurial strategizing. In this latter activity the focus can be firmly on the processes of creatively recombining business elements and dynamically adjusting to new circumstances through which firms win profits -- rather than collecting rents through presumed imperfections in product markets or factor markets (Mathews 2006b).

The article suggests an alternative starting point for strategizing, based on Lachmannian and Austrian insights, where we take categories that are under direct management and entrepreneurial control – namely resources, activities and their connecting routines – and ask how profits might be earned by firms through reconfiguring these categories in the general case of disequilibrium. In so doing, we generate a framework that can yield a resource-based view, as well as an activities-based view and a routines-based view (or dynamic capabilities perspective) of strategizing, all considered in their general, disequilibrium setting, as well as in the special cases involving more restrictive settings at imperfect equilibrium where rents may be earned. Thus the framework is able to capture the insights of the standard RBV and the Porter frameworks as special cases of the more general case that holds in disequilibrium, where capitalist dynamics operate.

References

- Alderson, Wroe
1965 *Dynamic Marketing Behavior: A Functionalist Theory of Marketing*.
Homewood, IL: Richard D. Irwin.
- Argyres, Nicholas and Anita M. McGahan
2002 An interview with Michael Porter, *Academy of Management Executive*, 16 (2): 41-52.
- Arthur, W. Brian
1996 Increasing returns and the new world of business, *Harvard Business Review*, 74: 100-109.

- Augier, Mie and David J. Teece
2008 Strategy as evolution with design: The foundations of dynamic capabilities and the role of managers in the economic system, *Organization Studies*, 29: 1187-1208.
- Barney, Jay B.
1986 Strategic factor markets: Expectations, luck and business strategy, *Management Science*, 32: 1231-1241.
- Barney, Jay B.
1995 Looking inside for competitive advantage, *Academy of Management Executive*, 9 (4): 49-61.
- Baumol, William
2002 *The Free-Market Innovation Machine: Analyzing the Growth Miracle of Capitalism*. Princeton, NJ: Princeton University Press.
- Bianchi, Milo and Magnus Henrekson
2005 Is neoclassical economics still entrepreneurless? *Kyklos*, 58 (3): 353-377.
- Bromiley, Philip and Chris Papenhausen
2003 Assumptions of rationality and equilibrium in strategy research: The limits of traditional economic analysis, *Strategic Organization* 1: 413-438.
- Buchanan, James M. and Y.J. Yoon
1999 Generalized increasing returns, Euler's theorem, and competitive equilibrium, *History of Political Economy* 31: 511-523.
- Burgelman, Robert
2002 *Strategy is Destiny: How Strategy Making Shapes a Company's Future*. New York: The Free Press.
- Caves, Richard E.
1982 *American Industry: Structure, Conduct, Performance* (5th edition). Englewood Cliffs, NJ: Prentice-Hall.
- Chiles, Todd H. and Thomas Y. Choi
2000 Theorizing TQM: An Austrian and evolutionary economics interpretation, *Journal of Management Studies*, 37 (2): 185-212.
- Chiles, Todd H., Allen C. Bluedorn, and Vishal K. Gupta
2007 Beyond creative destruction and entrepreneurial discovery: A radical Austrian approach to entrepreneurship, *Organization Studies*, 28: 467-493.
- Clark, Gregory
2007 *A Farewell to Alms: A Brief Economic History of the World*. Princeton, NJ: Princeton University Press.
- Cohen, M., R. Burkhart, G. Dosi, M. Egidi, L. Marengo, M. Warglien, and S. Winter
1996 Routines and other recurring action patterns of organizations: Contemporary research issue, *Industrial and Corporate Change*, 5 (3): 653-699.
- Comanys, Yosem E. and Jeffery S. McMullen
2007 Strategic entrepreneurs at work: The nature, discovery, and exploitation of entrepreneurial opportunities, *Small Business Economics*, 28: 301-322.

- Cyert, Richard M. and James G. March
1992 *A Behavioral Theory of the Firm* (Second edition). Oxford: Blackwell.
- Denrell, Jerker, Christina Fang, and Sidney G. Winter
2003 The economics of strategic opportunity, *Strategic Management Journal* 24: 977-990.
- Dosi, Giovanni, Marco Faillo and Luigi Marengo
2008 Organizational capabilities, patterns of knowledge accumulation and governance structures in business firms: An introduction, *Organization Studies*, 29: 1165-1185.
- Eisenhardt, Kathleen M. and Jeffrey A. Martin
2000 Dynamic capabilities: What are they? *Strategic Management Journal* 21: 1105-1121.
- Epple, Dennis, Linda Argote, and Rukmini Devadas
1991 Organizational learning curves: A method for investigating intra-plant transfer of knowledge acquired through learning by doing, *Organization Science*, 2 (1): 58-70.
- Evans, David S. and Boyan Jovanovic
1989 An estimated model of entrepreneurial choice under liquidity constraints, *Journal of Political Economy*, 97 (4): 808-828.
- Foss, Kirsten, Nicolai J. Foss, Peter G. Klein and Sandra K. Klein
2007 The entrepreneurial organization of heterogeneous capital, *Journal of Management Studies*, 44 (7): 1165-1186.
- Foss, Nicolai J. and Ibuki Ishikawa
2007 Towards a dynamic Resource-based view: Insights from Austrian capital and entrepreneurship theory, *Organization Studies*, 28 (5): 749-772.
- Foss, Nicolai J., Peter G. Klein, Yasemin Y. Kor and Joseph T. Mahoney
2008 Entrepreneurship, subjectivism, and the resource-based view: Toward a new synthesis, *Strategic Entrepreneurship Journal*, 2: 73-94.
- Gartner, William B., Barbara J. Bird and Jennifer A. Starr
1992 Acting as if: Differentiating entrepreneurial from organizational behavior, *Entrepreneurship Theory and Practice*, 16 (3): 13-31.
- Hambrick, Donald C.
2004 The disintegration of strategic management: It's time to consolidate our gains, *Strategic Organization* 2: 91-98.
- Harrison, Jeffrey S., Michael A. Hitt, Robert E. Hoskisson, and R. Duane Ireland
2001 Resource complementarity in business combinations: Extending the logic to organizational alliances, *Journal of Management* 27: 679-690.
- Harper, David A.
1996 *Entrepreneurship and the Market Process: An enquiry into the growth of knowledge*. London and New York: Routledge.
- Henderson, Rebecca and Kim B. Clark
1990 Architectural innovation: The reconfiguration of existing product technologies and the failure of established firms, *Administrative Science Quarterly*, 35: 9-30.
- Hitt, Michael A., R. Duane Ireland, S. Michael Camp and Donald S. Sexton

- 2001 Entrepreneurial strategies for wealth creation, *Strategic Management Journal*, 22: 479-491.
- Ireland, R. Duane, Michael A. Hitt and David G. Sirmon
2003 A model of strategic entrepreneurship: The construct and its dimensions, *Journal of Management*, 29: 963-989.
- Jacobides, Michael and Sydney G. Winter
2007 Entrepreneurship and firm boundaries: The theory of a firm, *Journal of Management Studies*, 44 (7): 1213-1241.
- Jacobson, Robert J.
1992 The "Austrian" school of strategy, *Academy of Management Review*, 17: 782-807.
- Jacobson, Robert J. and Gary Hansen
2001 Modeling the competitive process, *Managerial and Decision Economics*, 22: 251-263.
- Knight, Frank H.
1921 *Risk, Uncertainty and Profit*. Boston, MA: Houghton Mifflin Co. (Republished by University of Chicago Press in 1971.)
- Knight, Frank H.
1942 Profit and entrepreneurial functions, *Journal of Economic History*, 2 (Supplement: The tasks of economic history; Symposium on profits and the entrepreneur), December: 126-132.
- Kogut, Bruce and Nalin Kulatilaka
2001 Capabilities as real options, *Organization Science*, 12: 744-758.
- Kor, Yasemin Y., Joseph T. Mahoney and Stephen C. Michael
2007 Resources, capabilities and entrepreneurial perceptions, *Journal of Management Studies*, 44 (7): 1187-1212.
- Lachmann, Ludwig M.
1947 Complementarity and substitution in the theory of capital, *Economica*, 14 (54) (May): 108-119.
- Lachmann, Ludwig M.
1956 *Capital and its Structure*. London: Bell (2nd edition, 1978, reprinted by Sheed, Andrews and McMeel Inc, Kansas City).
- Lachmann, Ludwig M.
1976 From Mises to Shackle: An essay on Austrian economics and the kaleidic society, *Journal of Economic Literature*, 14 (1): 21-29.
- Lachmann, Ludwig M.
1986 *The Market as an Economic Process*. Oxford: Blackwell.
- Levitt, B. and James G. March
1988 Organizational learning, *Annual Review of Sociology*, 14: 319-340.
- Lewin, Peter
1997 Capital in disequilibrium: A reexamination of the capital theory of Ludwig M. Lachmann, *History of Political Economy*, 29: 523-548.

- Lewin, Peter
1999 *Capital in Disequilibrium: The Role of Capital in a Changing World*. London and New York: Routledge.
- Lewin, Peter and Steve E. Phelan
1999 Firms, strategies and resources: Contributions from Austrian economics, *Quarterly Journal of Austrian Economics*, 2 (2): 3-18.
- Low, Murray and Ian C. Macmillan
1988 Entrepreneurship: Past research and future challenges, *Journal of Management*, 14: 139-161.
- McKelvey, Bill
2004 Toward a complexity science of entrepreneurship, *Journal of Business Venturing*, 19: 313-341.
- Mahoney, Joseph T.
1995 The management of resources and the resource of management, *Journal of Business Research*, 33: 91-101.
- March, James G.
2007 The study of organizations and organizing since 1945, *Organization Studies*, 28 (1): 9-19.
- Mathews, John A.
2005 Strategy and the crystal cycle, *California Management Review*, 47 (2): 6-31.
- Mathews, John A.
2006a Ricardian rents or Knightian profits? More on Austrian insights on strategic organization, *Strategic Organization*, 4 (1): 97-108.
- Mathews, John A.
2006b *Strategizing, Disequilibrium and Profit*. Stanford, CA: Stanford University Press.
- Penrose, Edith
1959/1995 *The Theory of the Growth of the Firm* (1st/3rd edition with new Foreword by author). Oxford: Oxford University Press.
- Peteraf, Margaret A.
1993. The cornerstones of competitive advantage: A resource-based view, *Strategic Management Journal*, 14: 179-191.
- Porter, Michael E.
1991 Towards a dynamic theory of strategy, *Strategic Management Journal* 12 (Special Issue: Fundamental Research Issues in Strategy and Economics): 95-117.
- Reed, Richard and Robert J. DeFillippi
1990 Causal ambiguity, barriers to imitation, and sustainable competitive advantage, *Academy of Management Review*, 15 (1): 88-102.
- Roberts, Peter W. and Kathleen M. Eisenhardt
2003 Austrian insights on strategic organization: From market insights to implications for firms, *Strategic Organization*, 1: 345-352.
- Rumelt, Richard P., Dan E. Schendel, and David J. Teece, D.J.

- 1991 Strategic management and economics, *Strategic Management Journal*, 12 (Winter special issue): 5-29.
- Salerno, Joseph
 2002 The rebirth of Austrian economics – in the light of Austrian economics, *The Quarterly Journal of Austrian Economics*, 5 (4): 111-128.
- Schumpeter, Joseph A.
 1912/1934/1983 *The Theory of Economic Development: An Inquiry into Profits, Capital, Credit, Interest, and the Business Cycle*. (Translated by R. Opie 1934; with a new introduction by J.E. Elliott 1983). New Brunswick, NJ: Transaction Publishers.
- Schumpeter, J.A.
 1912/2002 The economy as a whole: The “lost” seventh chapter to Schumpeter’s ‘The Theory of Economic Development’, *Industry and Innovation*, 9 (1/2): 91-145.
- Selsky, John W., Jim Goes, and Ouz N. Baburoglu
 2007 Contrasting perspectives of strategy making: Applications in ‘hyper’-environments, *Organization Studies*, 28 (1): 78-94.
- Shane, Scott and S. Venkataraman
 2000 The promise of entrepreneurship as a field of research, *Academy of Management Review*, 25 (1): 217-226.
- Teece, David J.
 1998 Capturing value from knowledge assets: The new economy, markets for know-how, and intangible assets, *California Management Review*, 40 (3): 55-79.
- Teece, David J., Gary Pisano, and Amy Shuen
 1997 Dynamic capabilities and strategic management, *Strategic Management Journal*, 18: 509-533.
- Wernerfelt, Birger
 1984 A resource-based view of the firm, *Strategic Management Journal*, 5: 171-180.
- Whitley, Richard
 2008 Varieties of knowledge and their use in business and management studies: Conditions and institutions, *Organization Studies*, 29 (4): 581-609.
- Winter, Sidney G.
 2003 Research note: Understanding dynamic capabilities, *Strategic Management Journal*, 24: 991-995.
- Zappia, Carlo
 2001 Equilibrium and disequilibrium dynamics in the 1930s, *Journal of History of Economic Thought*, 23 (1): 55-75.

Notes

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- ⁱ Equilibrium is here used in the sense of a (fictional) point in economic space where markets for commodities and factors are cleared; this is the standard meaning in economics. It carries no implication that equilibrium is a ‘natural’ resting place for an economy to reach, as in a ‘well’ that describes equilibrium in a thermodynamic system. A different sense of equilibrium is employed in the evolutionary sciences, where equilibrium can refer to a stable relationship between species within a given environment, and where such an equilibrium can last for a very long time. McKelvey (2004) provides an overview from a strategy and entrepreneurial perspective.
- ⁱⁱ Bianchi and Henrekson settle on a definition of entrepreneurship as “the ability and willingness of individuals, both on their own and within organizations to: (1) *innovate*, i.e. perceive and create new economic opportunities; (ii) *face uncertainty*, i.e. introduce their ideas in the market, by making decisions on location, form and the use of resources and institutions; and (iii) *manage their business* by competing with others for a share of that market” (2005: 355).
- ⁱⁱⁱ The neoclassical tradition almost completely ignores entrepreneurial activity (Bianchi and Henrekson 2005) or mis-categorizes it as a choice between clear alternatives. Where entrepreneurship is discussed in this tradition, it is in narrow functional terms, and in general equilibrium settings, by authors such as Evans and Jovanovic (1989), where returns to a highly stylized characterization of the entrepreneur are envisaged.
- ^{iv} Lachmann also draws attention to capital substitution and reshuffling of capital goods at the firm level, all viewed as part of the process of restructuring of capital. I place less emphasis on this aspect of construction of capital structure because it is more likely to be associated with a strategy of imitation rather than of original profit creation.
- ^v See the interview with Porter in Argyres and McGahan (2002) for an elaboration of the dual perspective.
- ^{vi} The production function as utilized in economics is a construct that stipulates output in terms of factor inputs (usually land, capital and labor). All the contractual and strategic issues involved in building firms are assumed away in such a construct. Economists’ graphical depictions of firms’ total output, marginal output etc only make sense in a world of certainty, where objective values can be placed on these constructs. A subjectivist approach suitable for framing strategic choices needs to dispense with such an assumption.
- ^{vii} In Lachmann’s last book, *The Market as an Economic Process*, he states his position very clearly: “We suggest ... that the notion of *capital combination* be used as our fundamental concept. Each capital combination is handled by a *firm*, acting as our unit agent within the framework of its plan ... We shall think of it as typically composed of land, buildings, fixed and working capital as well as sums of money and financial assets... The composition of a capital combination cannot be chosen at random. Only certain forms of it can produce output streams, only some of these can be profitably produced. Technological and market constraints circumscribe feasible *modes of complementarity* of the various elements” (1986: 63). On the next page he notes that capital structure arises from the constant interaction between firms and their conflicting plans, and is thus “always in disequilibrium” (1986: 64).
- ^{viii} The DCP certainly comes out of the evolutionary/Variation-Selection-Retention way of thinking, which McKelvey (2004) insists is equilibrium-based. But this is equilibrium in an evolutionary sense, rather than in the sense used in neoclassical economics. Augier and Teece (2008) clarify the evolutionary origins of DCP thinking, and formulate the insight that strategy from this perspective can be considered ‘evolution with design’ – as opposed to evolution via blind variation and selection.