Commentary

A General Theory of Competition: issues, answers and an invitation

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Abstract Resource-advantage theory is an interdisciplinary, evolutionary, process theory of competition that is proving to be extraordinarily provocative. A General Theory of Competition: Resources, Competences, Productivity, Economic Growth pulls together many of the articles that develop the theory. This article provides a brief overview of resource-advantage theory, reports on two queries that have been raised by the theory’s critics, responds to the two queries, and extends an invitation to readers.

Introduction

The resource-advantage theory of competition (hereafter, R-A theory) is interdisciplinary in the sense that it has been developed in the literatures of several different disciplines, including marketing (Falkenberg, 2000; Foss, 2000; Hodgson, 2000; Hunt, 1997a, 1999, 2000a, 2000b; Hunt et al., 2001; Hunt and Morgan, 1995, 1996, 1997), management (Hunt, 1995, 2000c; Hunt and Lambe, 2000), economics (Hunt, 1997b, 1997c, 1997d, 2000d, 2001) and general business (Hunt, 1998; Hunt and Duhan, 2001). R-A theory is also interdisciplinary in that, as shown in Table I, it draws on and has affinities with numerous other theories and research traditions, including evolutionary economics, “Austrian” economics, heterogeneous demand theory, differential advantage theory, the historical tradition, industrial-organization economics, the resource-based tradition, the competence-based tradition, institutional economics, transaction cost economics, and economic sociology. At least in part because of its interdisciplinary nature, R-A theory has always been provocative (Hunt and Morgan, 1996, 1997).

A General Theory of Competition (Hunt, 2000a) – hereafter, GTC – pulls together many of the articles that develop R-A theory in the diverse disciplines. As with the articles, GTC’s provocative, interdisciplinary nature has prompted questions, critiques, and commentaries. Most commentators find many aspects of GTC to be commendable. For example, Lusch (2000, p. 126) finds that, because of GTC’s “unifying and integrative nature ... it should be especially useful to educators, managers, and public policymakers”. Likewise, Falkenberg (2000, p. 7) feels “confident that the text will serve as a useful tool for understanding markets and competition, that it will inspire further research in the area, and that it will be required reading for students of marketing and strategy.” Nonetheless, numerous issues concerning GTC have been raised. For
### Research tradition

<table>
<thead>
<tr>
<th>Research tradition</th>
<th>Representative works</th>
<th>Affinities with R-A theory</th>
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<tbody>
<tr>
<td>1. Evolutionary <strong>economics</strong></td>
<td>Marshall (1890)</td>
<td>Competition is an evolutionary, disequilibrating process. Firms have heterogeneous competences. Path dependencies can occur</td>
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<td>Schumpeter (1934, 1950)</td>
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<td>Alchian (1950)</td>
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<td>Nelson and Winter (1982)</td>
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<td>Langlois (1986)</td>
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<td>Dosi et al. (1988)</td>
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<td>Witt (1922)</td>
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<td>Foss (1993)</td>
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<td>Hodgson (1993)</td>
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<td>2. Austrian <strong>economics</strong></td>
<td>Mises (1920, 1949)</td>
<td>Competition is a knowledge-discovery process. Markets are in disequilibrium. Entrepreneurship is important. Value is subjective. Intangibles can be resources Intra-industry demand is substantially heterogeneous. &quot;Product&quot; should be defined broadly</td>
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<td>Hayek (1935, 1948)</td>
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<td>Rothbard (1962)</td>
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<td>Kirzner (1979, 1982)</td>
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<td>Lachmann (1986)</td>
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<td>3. Heterogeneous <strong>demand theory</strong></td>
<td>Chamberlin (1933)</td>
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<td>Smith (1956)</td>
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<td>Alderson (1957, 1965)</td>
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<td></td>
<td>McCarthy (1960)</td>
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<td>Myers (1996)</td>
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<td>4. Differential <strong>advantage theory</strong></td>
<td>Clark (1954, 1961)</td>
<td>Competition is: dynamic; both initiatory and defensive; and involves a struggle for advantages. General equilibrium is an appropriate welfare ideal History “counts”. Firms are entities that are historically situated in space and time. Institutions influence economic performance Firm’s objective is superior financial performance. Marketplace positions determine relative performance. Competitors, suppliers and customers influence performance Resources may be tangible or intangible. Firms are historically situated combiners of heterogeneous, imperfectly mobile resources</td>
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<td>Alderson (1957, 1965)</td>
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<td>Chandler (1990)</td>
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<td>Landes (1998)</td>
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<td>6. Industrial-organization <strong>economics</strong></td>
<td>Mason (1939)</td>
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<td>Bain (1954, 1956)</td>
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<td>Porter (1980, 1985)</td>
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<td>7. Resource-based <strong>tradition</strong></td>
<td>Penrose (1959)</td>
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<td>Lippman and Rumelt (1982)</td>
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<td>Wernerfelt (1984)</td>
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<td>Dierickx and Cool (1989)</td>
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<td>8. Competence-based <strong>tradition</strong></td>
<td>Selznick (1957)</td>
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<td>Andrews (1971)</td>
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<td>Hofer and Schendel (1978)</td>
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<td>Hamel and Prahalad (1989, 1994a, 1994b)</td>
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<td>Prahalad and Hamel (1990, 1993)</td>
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<td>Teece and Pisano (1994)</td>
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<td>Day and Nedungadi (1994)</td>
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<td>Aaker (1995)</td>
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<td>Sanchez et al. (1996)</td>
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<td>Heene and Sanchez (1996)</td>
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(continued)
example, Foss (2000) finds GTC to be too eclectic, i.e. too interdisciplinary, whereas Hodgson (2000), in contrast, argues that it is not eclectic or interdisciplinary enough. Furthermore, Savitt (2000) finds GTC to be too incremental in its approach, while Foss (2000), in contrast, believes it is not incremental enough. Finally, Savitt (2000) finds GTC to be too neoclassical, while Foss (2000) believes it not neoclassical enough. (See Hunt (2000b) for a response to these critiques.)

The purpose of this article is to address two issues that have been raised by numerous conference participants (and others) concerning GTC. As to the first issue, a foundational premise of R-A theory is that the primary objective of firms is “superior financial performance”. Critics question: Is this not just “profit maximization” or “wealth maximization” in disguise? That is, are not the differences between profit maximization and superior financial performance unimportant, a distinction without a difference? Second, GTC is a general theory of competition that is not mathematized, yet it incorporates perfect competition as a special case. Some critics query: How can GTC be a general theory of competition when it lacks equations? Others question: Shouldn’t perfect competition theory be abandoned, rather than incorporated as a special case? I first provide a brief overview of resource-advantage theory. I then develop the preceding two queries in some detail, respond to them, and extend an invitation.

Table 1.

<table>
<thead>
<tr>
<th>Research tradition</th>
<th>Representative works</th>
<th>Affinities with R-A theory</th>
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<tbody>
<tr>
<td>10. Transaction cost economics</td>
<td>Coase (1937) Williamson (1975, 1985, 1996)</td>
<td>Opportunism occurs. Many resources are firm-specific. Firm-specific resources are important Institutions can be independent variables. Social relations may be resources. Economic systems are embedded</td>
</tr>
</tbody>
</table>

Source: Hunt (2000a)
An overview of resource-advantage theory

R-A theory is a general theory of competition that describes the process of competition. Figures 1 and 2 provide a schematic depiction of R-A theory's key constructs and Table II provides its foundational premises. Our overview will follow closely the theory's treatment in GTC (Hunt, 2000a).

The structure of R-A theory

Using Hodgson's (1993) taxonomy, R-A theory is an evolutionary, disequilibrium-provoking, process theory of competition, in which innovation and organizational learning are endogenous, firms and consumers have imperfect information, and in which entrepreneurship, institutions, and public policy affect economic performance. Evolutionary theories of competition require units of selection that are:

- relatively durable, i.e. that can exist, at least potentially, through long periods of time; and
- heritable, i.e. that can be transmitted to successors.

For R-A theory, both firms and resources are proposed as the heritable, durable units of selection, with competition for comparative advantages in resources constituting the selection process.

At its core, R-A theory combines heterogeneous demand theory with the resource-based theory of the firm (see premises P1, P6 and P7 in Table II). Contrasted with perfect competition, heterogeneous demand theory views intra-industry demand as significantly heterogeneous with respect to consumers’ tastes and preferences. Therefore, viewing products as bundles of attributes, different market offerings or “bundles” are required for different market segments within the same industry. Contrasted with the view that the firm is a production function that combines homogeneous, perfectly mobile factors of production, the resource-based view holds that the firm is a combiner of heterogeneous, imperfectly mobile factors, which are labeled “resources”. These heterogeneous, imperfectly mobile resources, when combined with heterogeneous demand, imply significant diversity as to the sizes, scopes, and levels of profitability of firms within the same industry. The resource-based theory of the firm parallels, if not undergirds, what Foss (1993) calls the “competence perspective” in evolutionary economics and the “capabilities” approaches of Teece and Pisano (1994) and Langlois and Robertson (1995).

As diagramed in Figures 1 and 2, R-A theory stresses the importance of:

- market segments;
- heterogeneous firm resources;
- a comparative advantage/disadvantage in resources; and
- marketplace positions of competitive advantage/disadvantage.

In brief, market segments are defined as intra-industry groups of consumers whose tastes and preferences with regard to an industry’s output are relatively
Note: Competition is the disequilibrating, ongoing process that consists of the constant struggle among firms for a comparative advantage in resources that will yield a marketplace position of competitive advantage and, thereby, superior financial performance. Firms learn through competition as a result of feedback from relative financial performance "signaling" relative market position, which, in turn signals relative resources.

Source: Hunt and Morgan (1997)
### A General Theory of Competition

#### Figure 2. Competitive position matrix

<table>
<thead>
<tr>
<th>Relative Resource-Produced Value</th>
<th>Lower</th>
<th>Parity</th>
<th>Superior</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indeterminate Position</td>
<td>1</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Competitive Advantage</td>
<td>2</td>
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<td>4</td>
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<td>Competitive Advantage</td>
<td>5</td>
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<td>Competitive Disadvantage</td>
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<td>Competitive Disadvantage</td>
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<td>Competitive Disadvantage</td>
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<tr>
<td>Indeterminate Position</td>
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</table>

**Note:** The marketplace position of competitive advantage identified as Cell 3 results from the firm, relative to its competitors, having a resource assortment that enables it to produce an offering for some market segment(s) that (a) is perceived to be of superior value and (b) is produced at lower costs.

**Source:** Adapted from Hunt and Morgan (1995)

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**Table II. Foundational premises of resource-advantage theory**

<table>
<thead>
<tr>
<th>Premise</th>
<th>Description</th>
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<tbody>
<tr>
<td><strong>P1</strong></td>
<td>Demand is heterogeneous across industries, heterogeneous within industries, and dynamic</td>
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<tr>
<td><strong>P2</strong></td>
<td>Consumer information is imperfect and costly</td>
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<tr>
<td><strong>P3</strong></td>
<td>Human motivation is constrained self-interest seeking</td>
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<td><strong>P4</strong></td>
<td>The firm's objective is superior financial performance</td>
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<tr>
<td><strong>P5</strong></td>
<td>The firm's information is imperfect and costly</td>
</tr>
<tr>
<td><strong>P6</strong></td>
<td>The firm's resources are financial, physical, legal, human, organizational, informational and relational</td>
</tr>
<tr>
<td><strong>P7</strong></td>
<td>Resource characteristics are heterogeneous and imperfectly mobile</td>
</tr>
<tr>
<td><strong>P8</strong></td>
<td>The role of management is to recognize, understand, create, select, implement and modify strategies</td>
</tr>
<tr>
<td><strong>P9</strong></td>
<td>Competitive dynamics are disequilibrium-provoking, with innovation endogenous</td>
</tr>
</tbody>
</table>

**Source:** Adapted from Hunt and Morgan (1997)

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Homogeneous. Resources are defined as the tangible and intangible entities available to the firm that enable it to produce efficiently and/or effectively a market offering that has value for some marketing segment(s). Thus, resources are not just land, labor, and capital, as in neoclassical theory. Rather, resources can be categorized as financial (e.g. cash resources, access to financial markets), physical (e.g. plant, equipment), legal (e.g. trademarks, licenses), human (e.g. the skills and knowledge of individual employees), organizational (e.g. competences, controls, policies, culture), informational (e.g. knowledge from
consumer and competitive intelligence), and relational (e.g. relationships with suppliers and customers). Each firm in the marketplace will have a unique set of resources (e.g. very knowledgeable employees, efficient production processes, etc.) that could constitute a comparative advantage in resources that could lead to positions of advantage (cells 2, 3, and/or 6 in Figure 2) in the marketplace. Some of these resources are not easily copied or acquired (i.e. they are relatively immobile). Therefore, such resources (e.g. culture and processes) may be a source of long-term competitive advantage in the marketplace.

Just as international trade theory recognizes that nations have heterogeneous, immobile resources, and it focuses on the importance of a comparative advantage in resources to explain the benefits of trade, R-A theory recognizes that many of the resources of firms within the same industry are significantly heterogeneous and relatively immobile. Therefore, analogous to nations, some firms will have a comparative advantage and others a comparative disadvantage in efficiently and/or effectively producing particular market offerings that have value for particular market segments.

Specifically, as shown in Figure 1 and further explicated in Figure 2, when firms have a comparative advantage in resources they will occupy marketplace positions of competitive advantage for some market segment(s). Marketplace positions of competitive advantage then result in superior financial performance. Similarly, when firms have a comparative disadvantage in resources they will occupy positions of competitive disadvantage, which will then produce inferior financial performance. Therefore, firms compete for comparative advantages in resources that will yield marketplace positions of competitive advantage for some market segment(s) and, thereby, superior financial performance. As Figure 1 shows, how well competitive processes work is significantly influenced by five environmental factors: the societal resources on which firms draw, the societal institutions that form the "rules of the game" (North, 1990), the actions of competitors, the behavior of consumers and suppliers, and public policy decisions.

Consistent with its Schumpeterian heritage, R-A theory places great emphasis on innovation, both proactive and reactive. The former is innovation by firms that, although motivated by the expectation of superior financial performance, is not prompted by specific competitive pressures - it is genuinely entrepreneurial in the classic sense of entrepreneur. In contrast, the latter is innovation that is directly prompted by the learning process of firms' competing for the patronage of market segments. Both proactive and reactive innovation contribute to the dynamism of R-A competition.

Firms (attempt to) learn in many ways - by formal market research, seeking out competitive intelligence, dissecting competitors' products, benchmarking, and test marketing. What R-A theory adds to extant work is how the process of competition itself contributes to organizational learning. As the feedback loops in Figure 2 show, firms learn through competition as a result of the feedback from relative financial performance signaling relative market position, which, in turn, signals relative resources. When firms competing for a market segment...
learn from their inferior financial performance that they occupy positions of competitive disadvantage (see Figure 2), they attempt to neutralize and/or leapfrog the advantaged firm(s) by acquisition and/or innovation. That is, they attempt to acquire the same resource as the advantaged firm(s) and/or they attempt to innovate by imitating the resource, finding an equivalent resource, or finding (creating) a superior resource. Here, "superior" implies that the innovating firm's new resource enables it to surpass the previously advantaged competitor in terms of either relative efficiency, or relative value, or both.

Firms occupying positions of competitive advantage can continue to do so if:

- they continue to reinvest in the resources that produced the competitive advantage; and
- rivals' acquisition and innovation efforts fail.

Rivals will fail (or take a long time to succeed) when an advantaged firm's resources are either protected by such societal institutions as patents or the advantage-producing resources are causally ambiguous, socially complex, tacit, or have time compression diseconomies.

Competition, then, is viewed as an evolutionary, disequilibrium-provoking process. It consists of the constant struggle among firms for comparative advantages in resources that will yield marketplace positions of competitive advantage and, thereby, superior financial performance. Once a firm's comparative advantage in resources enables it to achieve superior performance through a position of competitive advantage in some market segment(s), competitors attempt to neutralize and/or leapfrog the advantaged firm through acquisition, imitation, substitution, or major innovation. R-A theory is, therefore, inherently dynamic. Disequilibrium, not equilibrium, is the norm. In the terminology of Hodgson's (1993) taxonomy of evolutionary economic theories, R-A theory is non-consummatory: it has no end-stage, only a never-ending process of change. The implication is that, though market-based economies are moving, they are not moving toward some final state, such as a Pareto-optimal, general equilibrium.

On superior financial performance
As shown in Table II, premise P4 in GTC proposes that the primary objective of the firm is superior financial performance. Both neoclassical commentators and behaviorally-oriented scholars criticize this premise. From a neoclassical perspective, superior financial performance is argued to offer no advantages over profit (or wealth) maximization. Indeed, the substitution of superior financial performance for maximizing performance sacrifices, for no good reason according to critics, the ability to express economic relationships in mathematical equations that can be solved for maxima and minima using differential calculus. In contrast, behaviorally-oriented scholars criticize superior financial performance because it does not acknowledge such firm objectives as guaranteeing employment to employees, producing environmentally-friendly products, and being responsible corporate citizens in
the locations in which they operate. Indeed, argue behavioralists, superior financial performance is "Anglo-centric" and does not acknowledge cultural differences among different market-based economics. My approach here will be to present GTC's arguments for superior financial performance. In doing so, I will address both the neoclassical and behavioralist criticisms.

Note that Table II shows that the firm's primary objective of superior financial performance (P4) is pursued under conditions of imperfect and often costly to obtain information about extant and potential market segments, competitors, suppliers, shareholders, and production technologies (P5). Note also that P3 posits human motivation to be constrained, self-interest seeking, that is, humans are constrained in their self-interest seeking by their personal moral codes (see Hunt, 2000a, pp. 118-21). Consistent with the "self-interest seeking" component of constrained, self-interest seeking, GTC argues that superior financial performance is the firm's primary objective because superior rewards flow to the owners, managers, and employees of firms that produce superior financial results. These rewards include not only such financial rewards as stock dividends, capital appreciation, salaries, wages, and bonuses, but also such nonfinancial rewards as promotions, expanded career opportunities, prestige, and feelings of accomplishment.

Because it enables firms to pursue other objectives, such as contributing to social causes or being a good citizen in the communities in which it operates, financial performance is viewed as primary. In response to behavioralist complaints, GTC does not ignore nonfinancial objectives; it just does not posit them as primary. For-profit organizations differ from their not-for-profit cousins in that the former, but not the latter, are for profit. Indeed, prolonged inferior performance threatens the firm's survival and prevents the accomplishment of secondary objectives.

The "superior" in superior financial performance equates with both more than and better than. It implies that firms seek a level of financial performance exceeding that of some referent. For example, the indicators of financial performance can be such measures as accounting profits, earnings per share, return on assets, and return on equity. The referent against which the firm's performance is compared can be the firm's own performance in a previous time-period, the performance of rival firms, an industry average, or a stock-market average, among others. Both the specific measures of financial performance and the specific referents used for comparison purposes will vary somewhat from time to time, firm to firm, industry to industry, and culture to culture. That is, for R-A theory, both measures and referents are independent variables. Therefore, GTC does not ignore differences among cultures. Rather, the theory provides a framework for investigating the different understandings of financial performance among different cultures and, most importantly, the consequences of these different understandings on firms, industries, productivity, economic growth, and social welfare.

Consider, for example, the issue of "short termism", i.e. the claim that US firms have short time horizons (compared with Japan, for example), which
results in firms pursuing short term profits instead of (presumably) more desirable, long-term investments. Many writers claim that short-termism is a serious problem in the USA and locate the cause of the problem in the institutions that influence the financial indicators used by US managers to gauge performance. For example, both Jacobs (1991) and Porter (1990, 1992a, 1992b) claim that fluid and impatient capital markets in the USA raise the cost of capital for US firms by overemphasizing short-term performance. In contrast, in Germany and Japan, where banks and other large shareholders rarely trade their shares, long-term capital appreciation is more highly (and, for Porter and Jacobs, more correctly) valued.

The point to be emphasized here is not whether short-termism exists in the USA or whether it is a major problem or whether impatient capital is its major cause. Rather, the point to be emphasized is that GTC acknowledges that different firms (and industries) in different societies may employ different indicators and referents of financial performance. Therefore, R-A theory provides a framework in which the questions “which indicators?” and “which referents?” make sense. In doing so, it provides a theoretical foundation for empirical research on these questions.

Superior financial performance does not equate with the neoclassical concepts of “abnormal profits” or “rents” (i.e. profits differing from the average firm in a purely competitive industry in long-run equilibrium). Because GTC views industry long-run equilibrium as a theoretical abstraction and a rare phenomenon, the concept of “normal” profits in the neoclassical tradition cannot be an empirical referent for comparison purposes. In this regard, note that industry average performance is not a suitable proxy for “normal” profits because industries seldom, if ever, are in long-run equilibrium. Note further that the actions of firms that collectively constitute competition do not force groups of rivals to “tend toward” equilibrium. Instead, the pursuit of superior performance implies that the actions of competing firms are disequilibrating, not equilibrating. Indeed, consistent with “Austrian” economics, markets seldom if ever are in long-run equilibrium, and activities that produce turmoil in markets are societally beneficial because they are the engine of economic growth: “Capitalism, then, is by nature a form or method of economic change and not only never is but never can be stationary” (Schumpeter, 1950, p. 82).

Positing that the firm’s goal is superior financial performance ensures that R-A theory is dynamic, which accords well with the extant dynamism of competition in market-based economies. It is no accident that static equilibrium theories assume profit or wealth maximization. But “saving the equations” through profit maximization has a price. If a firm is already making the maximum profit, why should it – absent environmental shocks – ever change its actions? For example, if a firm is maximizing profits producing a product at a certain quality level, why should it ever attempt to improve quality? Why should it ever innovate? If, however, firms are posited to: always seek more profits, higher earnings per share, and greater return on investment; and they
believe that there are always actions that can be taken to accomplish these goals; then competition will be dynamic, and innovations will be pursued.

Nelson and Winter (1982, p. 4) maintain that “firms in our evolutionary theory . . . [are] motivated by profit and . . . search for ways to improve profits”, which differs from “profit maximizing over well defined and exogenously given choice sets”. Likewise, Langlois (1986, p. 252) points out that, though economic “agent[s] prefer more to less all things considered,” this “differs from maximizing in any strong sense.” Similarly, though R-A theory posits that firms seek superior financial performance, the general case of competition is that they do not “strong sense” maximize because managers lack the capability and information to maximize (Simon, 1979). That is, although firms prefer more profits to less profits, a higher return on investment to a lower return, a higher stock price to a lower stock price, more shareholder wealth to less wealth, imperfect information implies that none of these financial indicators equates with profit or wealth maximization.

Real firms in real economies are not presented a menu of well-defined sets of alternatives for which the problem is to choose the profit or wealth-maximizing option. Firms do indeed take actions; they do indeed take note of financial indicators; and they do indeed make causal attributions between actions and indicators. But even if – and this is a big if – managers have good reasons to claim to know that actions previously taken have led (or will lead) to increases in financial performance, they cannot know (or warrantedly claim to know) that some alternative action or set of actions (identified or not identified) would not have produced (or will not produce) even higher returns. Therefore superior financial performance, not maximum performance, better describes the firm’s primary objective.

In addition to informational problems, firms do not “strong sense” maximize because of the personal moral codes of owners, managers, and subordinate employees, as those codes are influenced by cultural, religious, legal, corporate, and professional norms. Note that agency theory and transaction cost economics in the neoclassical tradition assume the personal moral codes to be universal self-interest maximization and universal opportunism (Fama, 1980; Fama and Jensen, 1983; Jensen and Meckling, 1976; Williamson, 1975, 1985, 1996). In terms of ethical theory, all economic agents are ethical egoists at all times: they ignore deontological considerations, assign zero importance weights to all stakeholders other than self, and maximize the ratio of good consequences over bad (Beauchamp and Bowie, 1988).

In contrast, GTC posits that personal moral codes, instead of being universally the same, are independent variables that vary across people (and peoples). Moral codes entail, at the minimum:

• the deontological norms (i.e. this is right; that is wrong) that an individual applies to decision situations;
• the rules for resolving conflicts among norms;
• the importance weights assigned to different stakeholders; and
the combinatory rules for merging the deontological and teleological evaluation processes (Hunt and Vitell, 1986, 1993).

Thus, GTC acknowledges that nonowner managers guided by ethical egoism will not profit maximize when such objectives conflict with their self-interests. However, by positing that superior financial performance is the primary, not universal, objective of firms and treating personal codes as independent variables, R-A theory expands the kinds of situations beyond those that can be addressed by neoclassical theory.

Consider, for example, the case of distributors of bottled water who could easily charge double the customary price when a natural disaster shuts down a community’s water supply. Some firms, guided by ethical egoism, i.e. self-interest maximization, might choose to double the price. Other firms, guided by “enlightened” self-interest seeking might choose not to double the price because they believe the long-term, net present value of doubling is less than the “goodwill value” of nondoubling. However, the personal codes of the managers of still other firms might result in their resisting the doubling of prices even though they believe the long-term, net present value of doubling is greater than the goodwill value of nondoubling. In particular, firms guided by deontological ethics might resist doubling because they believe it would constitute exploiting their customers and, hence, be deontologically wrong. In general (and inconsistent with agency theory and transaction cost economics), some firms neither profit maximize nor seek superior financial performance in particular decision situations because such options would violate (either owner or nonowner) managers’ sense of rightness and wrongness. This sense of rightness and wrongness results from managers’ beliefs concerning their duties and responsibilities to nonowner stakeholders, i.e. it stems from their personal moral codes based on deontological ethics.

Finally, GTC argues that efforts to profit maximize may also be thwarted by ethical code mismatches between managers and their subordinate employees. Suppose most of a firm’s employees have moral codes stressing deontological ethics and, thus, they avoid shirking, cheating, stealing, and other opportunistic behaviors. In such a firm, the costs associated with monitoring and strong controls would be pure economic waste. If, however, the owner-manager is an ethical egoist and assumes that the employees are also ethical egoists (doesn’t everyone utility maximize?), then expensive and unnecessary controls will be instituted. Ironically, then, the assumption of utility maximization by managers can thwart efforts at profit maximization. Etzioni (1988, p. 257) puts it this way: “The more people accept the [P-utility maximization part of the] neoclassical paradigm as a guide for their behavior, the more their ability to sustain a market economy is undermined”.

In summary, superior financial performance is argued to be the best descriptor of the firm’s primary objective because:

• superior rewards flow to owners, managers, and employees of firms that produce superior rewards;
superior performance enables the pursuit of other objectives; and

the pursuit of superior financial performance contributes to explaining
the observed dynamism of market-based economies.

Although firms do seek superior financial performance, they are argued to not maximize profits because:

- imperfect information makes maximization impossible;
- agency problems associated with ethical egoism will at times thwart maximization;
- firms guided by deontological ethics will at times choose not to maximize; and
- ethical code mismatches between (and among) owners, managers, and subordinate employees will at times prevent maximization.

On general theories

GTC argues that R-A theory is a general theory of competition that incorporates perfect competition as a special case. Neoclassical critics point out that the theory is not mathematized and, for them therefore, R-A theory is not even a theory, let alone a general theory. In contrast, some behaviorally-oriented scholars question the desirability of any theory that incorporates perfect competition. For such scholars, neoclassical theory is hopeless and should be abandoned in toto. I respond to these critiques by first discussing what it means to claim that one theory incorporates another. I then briefly review GTC's argument that R-A theory incorporates perfect competition, before specifically addressing the "equations" and "abandon" queries.

In the philosophy of science, one theory incorporates another when the general theory can satisfactorily explain the more limited theory's explanatory and predictive successes (Sellers, 1963; Levy, 1996). The classic example of incorporation, of course, is that Newtonian theory (which maintains that the acceleration of two masses increases as they approach each other) incorporates Galileo's Law of Descent (which assumes that acceleration is constant between two bodies) and thereby explains all the predictive successes of Galileo's Law. Simply put, if $d$ is the distance of a body from the surface of the earth and $D$ is the radius of the earth, Galileo's Law predicts well for most falling objects because the ration $d/D$ is — as argued in economics by Friedman (1953) to "close enough" to zero that assuming $g$ to be constant in $S = \frac{1}{2}gt^2$ is nonproblematic. Therefore, the foundations of Newtonian theory are such that they incorporate Galileo's Law as a special case.

GTC argues that R-A theory and its foundations (Table II) represent the general case of competition and perfect competition and its foundations are a special case. Therefore, R-A theory incorporates perfect competition, and explains the explanatory and predictive successes of perfect competition. Empirical evidence provides a prima facie case for this thesis.
As discussed in Hunt (2000a, pp. 152-6), the massive studies on the diversity of financial performance among firms, depending on the database used, come to the following conclusion: industry effects account for 4-19 per cent of the variance in performance, as measured by return on assets, and individual firm effects account for 19-55 per cent. The finding that firm effects (the focus of R-A theory) dominate industry effects (the focus of neoclassical theory) supports viewing the process identified by R-A theory in Figures 1 and 2 as the general case of the process of competition. Therefore, because a theory is derived from its assumptions, the evidence supports viewing each of R-A theory's foundational premises in Table II to be either descriptively realistic or, at least, "close enough" (Friedman, 1953). I now argue that the foundational premises of perfect competition are, indeed, special cases of R-A theory and, consequently, R-A theory incorporates perfect competition. I do so by showing when the latter's foundations are "close enough" to predict. Because the preceding section focused on premises P3 and P4, I explore here premises P1, P2, P5, and P7.

How should foundational premises P1, P2, P5, and P7 in Table II, concerning demand, information, and resource characteristics, be interpreted? Note that each assumption could be viewed as an idealized state that anchors an end-point on a continuum. That is, demand (P1) could be conceptualized as a continuum with perfect homogeneity and perfect heterogeneity as idealized anchor-points. Similar continua could be conceptualized for information and its cost (P2 and P5) and for the homogeneity-heterogeneity and mobility-immobility of resources (P7).

However, whereas perfect competition is customarily interpreted in the idealized, anchor-point manner, in no case is R-A theory to be interpreted as the anchor-point opposite perfect competition. Rather, each foundational premise of R-A theory is proposed as the descriptively realistic general case. Therefore, intra-industry demand (P1) is to be interpreted for R-A theory as substantially heterogeneous. Similarly, information for both firms (P5) and consumers (P2) is substantially imperfect and costly. Likewise, many, but not all, resources (P6) are substantially heterogeneous and immobile.

Consider the example of footwear, which is classified by the US Census as "SIC 314". R-A theory views consumers' tastes and preferences for footwear to be substantially heterogeneous and constantly changing. Furthermore, consumers have substantially imperfect information concerning footwear products that might match their tastes and preferences, and obtaining such information is often costly in terms of both time and money. The implication of heterogeneity is that few, if any, industry markets exist: there are only market segments within industries. There is no "market for shoes" (SIC 314), or even separate markets for women's shoes (SIC 3144) and men's shoes (SIC 3143). Even though all consumers require footwear and one can readily identify a group of firms that manufacture shoes, there is no shoe-industry market. That is, the group of firms that constitute the shoe industry do not collectively face a single, downward sloping demand curve for such an industry demand curve would imply homogeneous tastes and preferences.
For R-A theory, to the extent that demand curves exist at all, they exist at a level of (dis)aggregation that is too fine to be an "industry". For example, even if there were a men's walking shoe market, one certainly would not speak of the men's walking shoe industry. The fact that intra-industry demand is substantially heterogeneous in most industries (even at the four-digit SIC level) contributes to R-A theory's ability (and neoclassical theory's inability) to make the correct prediction as to the diversity in business-unit financial performance. Likewise, the fact that intra-industry demand is relatively homogeneous ("close enough") in at least some commodity-type industries, e.g. gold ores (SIC 1041), contributes to explaining those special cases where perfect competition predicts well. Therefore, R-A theory's premises $P_1$, $P_2$, $P_5$ and $P_7$ are the general case; perfect competition's premises are special cases.

For all the first eight foundational premises shown in Table II, I argue that R-A theory's foundations are descriptively realistic of the general case of competition and perfect competition's assumptions are special cases. However, $P_9$, the issue of competitive dynamics, provides an opportunity to explicate the argument in detail. Under what set of circumstances will the process of R-A competition (which is disequilibrium-provoking, with innovation endogenous) result in perfect competition (which is equilibrium-seeking, with innovation exogenous)?

Consider the following scenario. First, assume that a set of firms producing an offering for a particular market segment within an industry has been competing according to R-A theory. Therefore, because of resource heterogeneity (say, different levels of a key competence), the firms are distributed throughout the nine marketplace positions in Figure 2. Some firms, because of their comparative advantage in resources, are enjoying superior returns; others, because of their comparative disadvantage in resources, have inferior returns; and still others, because of their parity resources, have parity returns (see Figure 1).

Next assume that, through time, both disadvantaged and parity firms gradually learn how the advantaged firms are producing their offerings more efficiently and/or effectively and successfully imitate the advantaged firms by acquiring or developing the requisite resources. For example, assume that they gradually develop competences equivalent to the advantaged firms. Then assume that, even though all firms seek superior financial performance, no firm finds it possible to acquire, develop, or create new resources (e.g. developing a new competence) that will enable it to produce a market offering more efficiently or effectively than any other firm. That is, for some reason or set of reasons, all competition-induced innovation stops, both proactive and reactive. Consequently, all competition-induced technological change stops. Under these economic conditions, then, the resources of all firms serving this market segment become relatively homogeneous and there will be parity resources producing parity offerings.

Next assume that the tastes and preferences of consumers in all other market segments served by the firms in this industry shift toward the original
segment. Industry consumer demand will then become relatively homogeneous. Suppose further that consumers’ tastes and preferences remain stable throughout a significant period of time and that consumers become very knowledgeable about the relative homogeneity of firms’ offerings. There will then be parity resources producing parity offerings, which results in all firms having parity marketplace positions (cell 5 in Figure 2).

Next assume that firms have accurate information about competitive conditions and there are no institutional restraints preventing them from producing their market offerings in the profit-maximizing quantity. Under these economic circumstances, the industry experiences no endogenous technological change, firms become price-takers, and a static equilibrium theory of competition, such as perfect competition, applies. That is, there will be parity resources producing parity offerings, which results in parity marketplace positions and parity performance (see Figure 1). The industry has now become a candidate for “industry effects” to dominate “firm effects” in empirical studies, for collusion and barriers to entry to become viable explanations for any industry-wide, superior financial performance, and, in general, for industry-level theoretical analyses to be appropriate.

Next assume that the preceding process occurs in every industry in an entire economy. Then, if this set of economic circumstances persists through time, all competition-induced technological change ceases, all endogenous technological progress stops, all endogenous growth ceases, and a long-run, general equilibrium theory applies (such as Walrasian general equilibrium). In such an economy, growth comes only from exogenous sources, including those sources (e.g. government R&D or a state planning board) that might develop innovations that result in exogenous technological progress, as in neoclassical growth theory (see Hunt 2000a, pp. 179-83).

Note that the preceding analysis began with the process of R-A competition for a market segment and sketches the special economic circumstances that must prevail for the competitive process to result in a static-equilibrium situation in an industry. Among other conditions, it showed that a very important circumstance is that all endogenous innovation must stop (or be stopped). Such a stoppage might come as a result of collusion, complacency, institutional restrictions, governmental fiat, or lack of entrepreneurial competence. The analysis then sketched the special circumstances for a long-run general equilibrium to develop and, again, it showed that all endogenous technological progress in all industries, hence, all endogenous economic growth in an economy, must cease. Therefore, the statics of perfect competition, both partial equilibrium and general equilibrium, may be viewed as a special case of the dynamics of R-A theory. R-A theory relates to perfect competition in the same way that Newtonian mechanics relates to Galileo’s Law: the former incorporates the latter.
On the "equations" and "abandon" arguments

Returning to the neoclassical criticism that R-A theory is not a system of equations. The history of economics tells us that it was the Austrian Carl Menger (1840-1921), the Englishman William Stanley Jevons (1835-1882), and the Frenchman Leon Walras (1834-1910) who initiated the "marginalist revolution" in economics in the 1870s (Kuhn, 1970). Rejecting the view that objective factors, such as the quantity of labor, determined a commodity's value, Menger, Jevons, and Walras, each working independently, articulated a subjectivist theory of value. In this view, the key to understanding the exchange value of a commodity was the subjective increment to utility attributed by the consumer to the last unit added to or subtracted from the consumer's stock of the commodity. This incremental or marginal utility, which they argued declined monotonically with each additional unit, enabled them to resolve Adam Smith's paradox that water is very useful but has low exchange value, whereas diamonds have little use value but high exchange value.

The concept of marginal utility enabled Jevons and Walras to import differential calculus into economics. For them, utility was a continuous function and marginal utility was its first derivative, i.e. $MU_x = dU/dx$. The current practice of expressing key economics' constructs in mathematical equations that can then be solved for their maxima and minima using the calculus began with the marginal utility construct developed in the 1870s for analyzing demand. For the next seven decades the mathematization of all areas comprising the neoclassical research tradition proceeded steadily.

After the publication of Samuelson's (1947) *Foundations of Economic Analysis*, the mathematization of neoclassical economics accelerated; by 1990 it was complete (Debreu, 1990). The prestigious John Bates Clark medal was first awarded by the American Economics Association in 1947. Of the first 21 awards, 20 went to Fellows of the Econometric Society. Similarly, of the 30 Nobel awards for economics made between 1969 and 1990, 25 went to ES Fellows (Debreu, 1990). Not only had equation-solving become the preferred language of discourse in the journals of mainstream economics by 1990, but also "economic theory" and "mathematical equations" had become synonymous.

However, the equations of perfect competition must receive a substantive, nonmathematical interpretation in order for empirical testing and prediction to occur, and predictive adequacy is the epistemology of neoclassical economics (Friedman, 1953). Therefore, though R-A theory is not a system of equations, it shows when the system of equations constituting perfect competition is "close enough" to predict well. In doing so, R-A theory preserves the cumulativity of economic science. For example, the equations of the endogenous growth models of Romer (1994), Stokey (1991), and Young (1993) require a theory of competition such as R-A theory (Hunt, 1997b). In short, neoclassical economic theory needs a substantive, process theory of competition; GTC fits the requirements.
In contrast, the argument that neoclassical, perfect competition theory should be abandoned stems from its explanatory and predictive failures. For example, some philosophers of science (e.g. Rosenberg, 1992) who specialize in economics characterize the neoclassical research program as an empirical failure. Similarly, many economists are keenly disappointed with the tradition’s record as to predictive accuracy. As a case in point, in his 1970 presidential address to the American Economic Association, Nobel laureate Wassily Leontief (1970, p. 275) lamented: “In no other field of empirical enquiry has so massive and sophisticated a statistical machinery been used with such indifferent results”. And 12 years later he concluded:

Year after year economic theorists continue to produce scores of mathematical models and to explore in great detail their formal properties; and the econometricians fit algebraic functions of all possible shapes to essentially the same sets of data without being able to advance, in any perceptible way, a systematic understanding of the structure and operations of a real economy (Leontief, 1982, p. xi).

I grant that empirical failures abound in perfect competition theory. I disagree, however, that the empirical failures call for abandonment, for the theory’s scorecard has many empirical successes as well. Furthermore, all research traditions in the social sciences have empirical failures aplenty. Rather than abandonment, I argue that perfect competition should be retained for predictive purposes in those circumstances in which it should be “close enough”. What should be abandoned, for the reasons developed in GTC, is the use of perfect competition as a normative theory to guide public policy.

An invitation
Ever since the time of Plato, the Western philosophical tradition has stressed the importance of “critical discussion” in separating knowledge from opinion. Accordingly, I extend a cordial invitation to all scholars, irrespective of discipline, to subject GTC to critical discussion. First, GTC (Hunt, 2000a) makes numerous claims to knowledge, including the claim that resource-advantage theory:

- explicates the view that competition is a process of knowledge discovery (pp. 29-30 and 145-7);
- expands the concept of capital (pp. 186-9)
- predicts correctly that technological progress dominates the K/L (i.e. capital/labor) ratio in economic growth;
- predicts correctly that increases in economic growth cause increases in investment (pp. 194-8);
- predicts correctly that most of the technological progress that drives economic growth stems from actions of profit-driven firms (p. 199);
- provides a theoretical foundation for why formal institutions promoting property rights and economic freedom also promote economic growth (pp. 215-27); and
• provides a theoretical foundation for why informal institutions promoting social trust also promote economic growth (pp. 235-38).

It would seem that all of these claims, among others in GTC, warrant critical examination.

A second form of critical discussion would be testing empirically the implications of R-A theory. As to research methods appropriate for such testing, readers may wish to consult the numerous studies in the management and marketing literatures testing the resource-based view of the firm. However, a caution here is in order. R-A theory adopts a resource-based view of the firm. There is no such thing as the resource-based view of the firm. In particular, many versions of the resource-based view specifically adopt a neoclassical, static equilibrium approach. Therefore, the research methods employed in all tests of the resource-based view would be not appropriate for testing R-A theory.

A third form of critical discussion would focus on the premises of R-A theory. As discussed previously, GTC maintains that the premises of R-A theory (Table II) constitute the descriptively realistic, general case of competition. Indeed, R-A theory adopts the philosophical position of scientific realism. Therefore, each premise of the theory is a candidate for critical discussion. If a premise is found lacking, it should be replaced with a more descriptively realistic version.

A fourth form of critical evaluation would be to compare the merits of R-A theory with other theories of competition. GTC contrasts R-A theory with neoclassical, perfect competition theory. Many critics at conferences argue that there are theories of competition other than perfect competition against which R-A theory should be compared. However, to date these critics have spoken of "other theories of competition" in only the most general sense. If there are other theories of competition that should be compared with R-A theory, what are the foundational premises and structures of these theories? Specifically, how do the premises of these theories differ from those in Table II? How do the structures of these theories differ from those articulated in Figures I and II? Note that it is only by comparing rival structures and foundational premises that one can clearly evaluate how and why theories are consistent or inconsistent, saying different things or saying the same things differently, genuinely rival or actually complementary.

Finally, critical discussion might focus on developing the public policy implications of resource-advantage theory. GTC argues that public policy should promote vigorous R-A competition when the goals of public policy are wealth creation, productivity, and economic growth. What if the goal of an equitable distribution of income is adopted? Are equity and economic growth by means of R-A competition in conflict? If so, what definition of "equitable distribution" is implied? These questions and many others remain open to critical discussion. I invite all scholars to participate in the debate over GTC.
References


Chandler, A.D. (1990), Scale and Scope: The Dynamics of Industrial Capitalism, Harvard University Press, Cambridge, MA.


Commons, J.R. (1924), Legal Foundations of Capitalism, Macmillan, New York, NY 1968 edition by the University of Wisconsin Press, Madison, WI.


Parsons, T. and Smelser, N. (1956), Economy and Society: A Study in the Integration of Economic and Social Theory, The Free Press, Glencoe, IL.


