

**HIGH POINT OR HOBGOBLIN?**

**CONSISTENCY AND PERFORMANCE IN ORGANIZATIONS**

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**ABSTRACT**

Max Weber's argument that organizations benefit when they operate consistently and Robert Merton's counter-point that consistency arises from organizational dysfunction create a fundamental tension in organization theory. Substantial research has examined the spread of bureaucracy and organizational practices, while other research has examined how organizational change affects survival, but there has been surprisingly little research on the value or dysfunctional nature of ongoing consistency in following rules for decision making. This paper develops measures based on the definition of consistency as close adherence over time to a set of simple rules for conducting business. We explore the sources of consistency and test whether greater consistency is a beneficial high point in organizational development or, instead, whether consistency simply reflects Emerson's notion of a "hobgoblin of little minds".

Organizational theory has developed divergent views about the sources and impact of consistency in organizational decision making. On the one hand, Max Weber (1946) offered an outwardly-focused view of consistency that continues in modern institutional theory. Weber asserted that managers enforce consistent application of simple rules to increase speed and efficiency in market exchange, leading to improved performance. More broadly, institutional theorists argue that organizations are consistent to satisfy the demands of entrenched external institutions (Scott, 1995). The premise of consistency in the service of external demands underpins explanations for the intensification of bureaucratic practices in society (Weber 1946) and the spread of specific practices among organizations (DiMaggio and Powell 1983). On the other hand, an inwardly-focused view of consistency originated with the writings of Robert Merton (1936 and 1940). The Mertonian tradition views consistency as deriving from internal sources such as intra-organizational politics, sunk investments, and an upgrading of means to ends. This inwardly-focused premise, which is akin to Ralph Waldo Emerson's (1841) statement that consistency is the "hobgoblin of little minds", has been important in generating explanations for organizational failure (Nelson and Winter, 1982; March 1991). Michael Hannan and John Freeman (1984) offered an ecological reconciliation of these views, arguing that consistency largely arises from Mertonian processes, while also arguing that consistency is valuable because selection pressures favor reliable firms. The ecological argument led to research on whether discrete changes in core elements of organizational practices help or damage organizational performance, suggesting that firms often struggle following major changes (e.g., Haveman 1992; Amburgey 1993). By contrast, though, little research has assessed the more fundamental distinction between the Weberian and Mertonian arguments, by determining whether ongoing consistency in decision making hinders or contributes to organizational success.

This paper studies how consistency in following decision rules affects organizational performance and examines the sources of consistency. We develop measures that accord with

Weber's notion of consistency as "precisely, unambiguously, [and] continuously" pursuing the "discharge of business according to calculable rules" (1946: 215), as well as his definition of these rules as conventions that are "more or less stable, more or less exhaustive, and which can be learned" (1946: 198). We use these measures to test whether organizations benefit from greater consistency in decision making over time or whether consistency is dysfunctional. We then explore why some organizations are more consistent than others. The empirical analysis draws on a panel study of 32 women's general-interest consumer magazines published in the U.S. from 1990 to 2004, focusing on an interdependent set of three decision rules that are highly relevant in that industry. The discussion offers implications for when consistency will tend to be Weberian and beneficial or Mertonian and detrimental.

## **BACKGROUND**

### **Consistency**

By Weber's logic, consistency is evidence that active managers dispassionately apply clear decision rules to enhance organizational efficiency, speed, and reliability in response to the demands of a market economy. Weber's consistent organizations stem from a logic similar to the highly controlled and regimented workplaces of Adam Smith (1776), Henry Ford (1922), Frederick Taylor (1911), and W. Edwards Deming (1982), in which firms improve performance through the careful delineation, refinement, execution, and monitoring of work practices. The underlying belief is that following clear decision rules precisely and continuously eliminates wasted effort, wasted time, and wasted resources, and satisfies the demands of market exchange partners for speed, reliability, and efficiency (Weber 1946; Hannan and Freeman 1977).

For example, consider the standard markup pricing rules that are common in many firms (Mason 1939), from small bakeries to large industrial enterprises. While markup prices will not optimize margins on any given product except by chance, firms can apply the rules quickly, cheaply,

and consistently over a wide range of products, and can expect revenues to exceed at least variable costs, while consumers can appreciate the logic of the prices.

Weber (1946: 215) recognized that following calculable rules of this sort might sub-optimize individual decisions and, indeed, could “produce definite obstacles to the discharge of business in a manner suitable for the single case”, but argued that despite possible shortcomings, consistency represented a high point in the rationalization of economic activity in the service of market ends. Overall, the Weberian premise is that consistency in following decision rules improves a firm’s financial performance and enhances its survival chances.

Many institutional researchers have shared Weber’s view that consistency enhances firm survival by meeting external demands, but have stressed the importance of demands other than those of market exchange partners. Institutional research stresses the importance of consistency for gaining the support of powerful and entrenched organizations and maintaining legitimacy with social norms (Parsons 1956; Hirsch 1975; Scott 1995; North 1990; Giddens 1984; DiMaggio and Powell 1983).

For instance, consider the modern pharmaceutical industry. Pharmaceutical manufacturers benefit not only by providing a reliable flow of safe products and services to distributors and final customers, but also by following procedures that satisfy legal demands and allow for oversight by national regulatory bodies and that meet social expectations about ethical behavior in research and product availability. When pharmaceutical manufacturers deviate from these procedures, regulatory bodies can directly and indirectly impose costs on the pharmaceutical firms and limit their ability to sell products, maintain a monopoly, or advertise specific purposes for their products. Meeting such institutional demands may conflict with market norms or even broader social definitions of efficiency (Meyer and Rowan 1977: 340). As such, consistency may improve an organization’s survival prospects, even if it might do little to help or even potentially harms competitiveness in market

exchange (Barnett 1997).

By contrast, many scholars have shared Weber's interest in calculable rules, but taken a dimmer view of consistency. This competing view in the organization theory literature, traceable at least to Merton (1936), argues that consistency arises from internally oriented and typically dysfunctional processes. In this view, consistency is a byproduct of organizational drift that elevates means to the status of ends (Merton 1940; Warner and Havens 1968), of managers who are unable to determine which rules are helpful and which are not (Merton 1936; Leonard-Barton 1992), of firms that miss opportunities to explore valuable new possibilities because they fail to deviate from rules (March 1991), of sunk investments, and of petty bureaucrats and intra-organizational politics (Selznick 1957; Gouldner 1960).

Hannan and Freeman (1984) offer a refinement of the Mertonian view. They note that internal processes may lead to "relatively fixed repertoires of highly reproducible routines" (p. 155). In turn, they argue that such reliability is valued in a highly unpredictable world. This combination of internally-driven consistency and environmental selection means that consistent organizations are more likely to survive in stable environments, but that organizations often can not adapt core rules in response to changes in demands and opportunities in the environment. Indeed, even in the absence of environmental change, such internally-focused and boundedly-rational rule development processes are likely to lead to rules that are increasingly poorly adapted to external demands as internal hobgoblins move an organization further and further from the needs of the environment.

The ensuing debate over the sources of consistency has led to an intriguing disjuncture in organizational theory. There has been extensive empirical research on the origins of rules (Edelman 1990; Zhou 1993; Ocasio 1999) and extensive study of the risks firms face when undertaking discrete changes to fundamental systems and procedures (Hannan and Freeman 1977; Haveman 1992; Amburgey 1993; Kraatz and Zajac 1996; Nickerson and Silverman 2003). However, there has been

little direct research on the underlying premise that a greater degree of consistency – which we define as closer adherence over time to a set of simple rules for conducting business – is valuable for organizations. This leaves us with central questions about whether consistency is a sign of a troubled and internally focused organization or a vibrant and externally focused organization well-suited to the needs of exchange partners and the broader institutional environment.

## **Rules**

Consistency in following rules provides a fertile but challenging area for study for the simple reason that organizational rules are pervasive. Their pervasiveness is clear in Weber's (1946: 198) assertion that rules are "more or less exhaustive" and Ocasio's (1999: 385) broad definition of rules as "procedures applied in the enactment and reproduction of social structure." By this definition, rules include all of an organization's formal and informal policies, routines, regulations, norms and guidelines that influence actions and decisions (Zhou 1993). Rules may be established at the time an organization is founded (Stinchcombe 1965) or may develop over time (Zhou 1993). Rules may reflect concern for the organization's primary goals or for the many extra-organizational affiliations held by members of the organization (Parsons 1956).

This study will focus on rules for decision making. Our focus on decision making rules reflects the conceptual and empirical demands of comparing multiple firms in retrospective longitudinal research. Longitudinal data on outcomes such as decisions and their informational inputs is more readily available and reliable than data describing actions. Within the realm of outcomes, studying simple decision rules provides the clearest possible mean of isolating the effects of organizational resources and capabilities from the effects of consistency. Studying consistency in products and in many product characteristics, for example, potentially conflates the effects of consistency with the effects of the ability to be consistent. While following calculable rules contributes to low variance (consistency) in product quality, for example, so would investing in new

machinery and a skilled workforce. Since new machinery and a skilled workforce may also reduce costs and increase product quality, a study of consistency in product quality might easily suffer from omitted variable bias. By contrast, studying consistency in applying simple rules makes it far easier to avoid confusion with these effects.

We begin by focusing on rules for decisions that have clear and substantial influence on the value a firm provides to customers and on the firm's cost structure. This leaves open the question of whether consistency is valued differently by institutional actors and by the market. Nonetheless, the approach offers a clear perspective on whether higher levels of consistency reflect an outward (market and institutional) or inward (political and inertial) focus by firms.

Even simple rules may be difficult for individuals and organizations to follow. As March and Simon (1958) noted, it is not always clear to any one individual, much less to any group of individuals, organizations, and institutions, which rules are appropriate for a given situation and which rules take precedence over others. Rules may come into direct conflict as the outputs of one rule become the inputs of other rules, thereby leading to a complex set of interdependent decisions that multiple decision makers must enact, often with only limited coordination (Simon 1962; Hall 1976, 1984). Such an interdependent system will make it hard for an organization to maintain consistency in the face of changing conditions and limited levers and leeway for change (Ashby 1963; Steinbruner 1975).

Such an interdependent system may also lead to unanticipated emergent properties (Merton 1936). For example, Forrester (1961) shows how the combination of rules for sales forecasting based on historical data and rules for production leveling through building inventory in anticipation of periods of high sales, when combined with pricing rules intended to manage inventory, can lead to emergent and persistent seasonal fluctuations in sales, inventory, and prices even in the absence of any underlying seasonality in demand. Sterman, et al. (1997) show how production-scheduling rules

and rules for allocating improvement efforts can lead to unanticipated increases in inventories. Hall (1976) shows how rules for determining prices, product attributes, and promotional expenditures can create problems for which managers struggle to find solutions in otherwise viable businesses. These conflicts are likely to arise even in businesses as seemingly simple as small bakeries, in which one of the authors worked for several years, where rules for markup pricing interact with rules for seasonal product promotions and rules for production volumes.

Studying consistency in following rules requires hard choices up front. With so many potential rules to study at so many levels, what kinds of rules are most interesting? With so much potential richness to any one rule, what level of refinement do we wish to study? This paper makes these choices based on a desire to understand the financial performance and survival of firms and the question of whose interests rules serve and how well. We begin with an approach that is consistent with Weber's notion that rules meet external demands in a way that can benefit an organization yet are simple enough to be calculable, learnable, and to which people can be held accountable. In line with Weber's notion of calculable rules that firms can learn and discharge objectively, we define rules as relatively simple formal logical relationships between decisions and a limited set of observable conditions.

### **Inferences from Previous Studies**

Three literatures provide insight into the value of consistency in following rules: studies on the adoption of Total Quality Management (TQM) practices such as statistical process control, studies of bootstrapping decision making rules, and studies of organizational change and performance.

Many firms have reduced variance in product quality through careful application of well-defined TQM procedures, leading to substantial operational and product improvements. While firms have struggled to implement such programs, those that have generated greater consistency have seen

substantial benefit (Easton and Jarrell 1998; Hendricks and Singhal 1996).

Bootstrapping research has provided substantial support for the Weberian value of consistency. Bootstrapping involves using actual managerial decisions and informational inputs to estimate a model of the decision rule. In experimental and simulation studies, researchers have found that simple additive rules often predict human decision making quite accurately and that these simple rules are often superior to the actual decisions from which they were estimated, indicating that the non-random shortcomings (error) of the simplified decision rule are less problematic than the random errors of the individual decision makers (Bowman 1963; Huber 1975). These findings fit well with the Weberian view of value from depersonalization of decisions. However, some researchers have found that combining bootstrapping models with human decision makers raises performance, calling into question the relative value of being consistent or, instead, responding to unique events (Camerer 1981; Blattberg and Hoch 1990).

Studies of organizational change and performance suggest two reasons that consistency is valuable. First, Hannan and Freeman (1977) argued that the same structures that give rise to consistency make firms more inert. Since these structures are not inherently valuable, Hannan and Freeman proposed that these structures are prevalent in organizational populations because consistency is selected for. Evidence of inertia, therefore, can be interpreted as evidence that consistency engenders survival benefits. Second, recent change in a firm's core features such as expanding the range of products, increasing the frequency of production, and changing the nature of contracts within the firm (Haveman 1992; Amburgey 1993; Kraatz and Zajac 1996; Barnett and Freeman 2001; Nickerson and Silverman 2003) can be viewed as an extreme form of inconsistency. Evidence that change poses survival risks (Barnett and Carroll 1995), therefore, can be interpreted as evidence that inconsistency poses survival risks.

It is important to test the premise that consistency is valuable in institutionally rich settings

rather than in the simpler experimental and simulated settings employed by bootstrapping studies. Bootstrapping studies evaluate the accuracy and efficacy of decisions absent any context in which other organizational decisions are made or where exchange partners and institutions react to those decisions. In doing so, they overlook potential effects of consistency on internal coordination and support from exchange partners and institutions. Without this broader context, they may understate the value of consistency and may be more inclined to find deviations from simple rules (e.g., human interventions that respond to unique events) as valuable.

In addition, it is important to test the premise that consistency is valuable in a more direct and targeted manner than by inference from instances of discrete changes in core features. Studies of firm change and performance examine the effects of discrete changes in a firm's core attributes. The effects of these changes may go far beyond inconsistency and overstate or mask the effects of inconsistency. Changing a firm's core attributes may lead to a loss of social legitimacy, a breakdown of internal coordination, loss of support from market exchange partners, and challenges to organizational and institutional power bases (Stinchcombe 1965) to a degree not experienced when organizations are inconsistent but outwardly maintain the same procedures (Meyer and Rowan 1977). Alternatively, observable dramatic changes may understate the effects of inconsistency because change processes are likely to occur at similar times by multiple organizations, thereby muting any competitive disadvantage of inconsistency. Occasional discrete changes may not raise the same issues of legitimacy and predictability that inconsistency brings because change can be legitimized by the actions of others and a firm's intentions can be announced and justified in advance.

Moreover, it is likely that some degree of consistency on some organizational dimensions is good, some bad, and some unimportant. To understand where and why consistency is beneficial or detrimental and why some organizations are more consistent than others, we need directed studies capable of isolating and measuring multiple dimensions of consistency.

## **HYPOTHESES**

We pose two hypotheses about consistency and performance, using the Weberian viewpoint as the base argument. Together, tests of the hypotheses will allow us to distinguish between the Weberian and Mertonian arguments.

Consistency, which we defined above as close adherence to relatively simple formal logical relationships between decisions and a limited set of observable conditions, may help firms improve coordination, accountability, efficiency, and speed (Weber 1946). Greater consistency will help exchange partners by increasing predictability and reducing information gathering, evaluation, and adjustment costs (Hannan and Freeman 1977; Rotemberg 1982). Such partners include employees who invest in human capital (Becker 1962), suppliers and industrial customers who invest in specialized complementary equipment and commit to production schedules and delivery dates (Richardson 1972), and consumers who do not want to engage in information gathering and reevaluation of options before every purchase.

Consistency will also improve coordination among decision makers within the firm, because consistent responses allow a uniform mapping from contingencies to appropriate responses by each decision maker. In an analogy to Deming's (1982) work on consistency in production, 'quality' (i.e., low variance from specified rules) should be 'free', because the gains in value and legitimacy combined with the savings in effort and resources exceed the direct costs and forgone opportunities required to act consistently.

**Hypothesis 1:** The greater the consistency, the greater a firm's performance.

We examine the effects of consistency on two performance dimensions: survival and revenue growth. It is common to focus on survival in studies of business change to avoid the problems associated with other measures of firm performance (Barnett and Carroll 1995). At the same time, a key issue concerning causality in any firm-level study requires the use of additional measures. At a

population level, if the environment selects for consistency, then performance (selection) is a cause of consistency. At a firm level, consistency may well be the result of high performance (and inconsistency the result of performance problems) rather than the cause of high performance. Survival alone does not allow for the evaluation firm-level effects of performance on consistency except through selection, making it necessary to examine other performance dimensions, particularly financial performance.

Furthermore, consistency may affect different dimensions of performance in different ways and for different reasons, which will provide insight into the role of consistency. Consistently following rules that enhance efficiency and increase value to exchange partners is likely to have a direct effect on financial performance. In parallel, consistency in following rules that address institutional preferences will also influence firm survival. We expect that greater consistency will enhance both revenues and firm survival chances.

The second prediction addresses sources of consistency, focusing on the impact of age. From either a Weberian or a Mertonian perspective, consistency is likely to increase with age. Even a well run and externally oriented Weberian organization will require learning over time to rationalize its procedures to the needs of the market, determine how to coordinate across rules, and how to codify them into practice (Dierickx and Cool 1989; Ocasio 1999). Alternatively, organizations are likely to become more consistent over time as political power bases become entrenched and practices become goals to be pursued and matters of faith rather than well understood and thus adaptable means to an end (Merton 1936; Leonard-Barton 1992). This hypothesis helps test whether older organizations are more consistent solely because older organizations have survived selection processes that weed out inconsistent firms or whether organizations, intentionally or not, become more consistent over time. The analysis will address other possible sources of consistency as control variables.

**Hypothesis 2:** Firms become more consistent with age.

In combination, H1 and H2 assess whether any observed consistency in the rules we study arises from Weberian rational economic processes or from more Mertonian political processes. If rules are strongly influenced by Weberian processes, both H1 and H2 will hold. That is, consistency will increase over time (H2) as firms refine their performance-enhancing rules and improve their procedures for implementing and monitoring the application of those rules. This interpretation would be particularly strong if greater consistency improves both financial performance and survival chances (H1), because it would suggest that managers are able to enforce rules in a way that combines or at least balances the demands of both exchange partners and more general institutions.

In a world of Mertonian consistency, by contrast, we would expect only H2 to hold. That is, Mertonian organizations will coalesce over time on rules that are favored by powerful internal groups and will often be inadequately responsive to external demands. Such rules are unlikely to enhance the needs of exchange partners or cater to external demands even of highly structured and static institutions. It is more likely that the rules serve internal political interests or, possibly, bygone external interests. Particularly if H1 does not hold for either financial performance or survival, then the results would suggest a strong form of Mertonian consistency. In this pattern of results, firms would face strong limits on the rationality of managers, such that intense internal politics leads to increasing consistency over time but with rules that have little or no benefit for the firm. This pattern would suggest that organizations lock ever more closely into simple rules that attract neither market support nor support from institutions.

The other combinations of results for H1 and H2 also offer useful insights. If consistency improves performance (H1), but firms do not become more consistent over time (rejecting H2), the result would suggest that organizations are highly inert, even faced with the benefits of consistency. If consistency neither increases with age nor influences performance (rejecting both H1 and H2) then there could be two alternative interpretations. First, firms simply might not follow rules. Second, they

might follow rules that differ from those that we examined.

We can refine the implications further by considering possible differences in how consistency influences financial performance and survival (the sub-elements that we will test with H1). Finding that consistency increases with age and that consistency enhances survival chances, but without improving financial performance, would be evidence of an external form of the Mertonian process. In this pattern, firms would learn to hold to rules that do not help them in market exchange but garner institutional support that compensates for a lack of market fitness (Barnett 1997). Finding that consistency increases with age and that consistency enhances financial performance, but without improving survival chances, would be evidence that consistency causes firms to lock in on immediate financial objectives, while paying insufficient attention to the demands of non-market institutions that influence the availability of resources that contribute to long-term survival.

In summary, testing the two hypotheses provides insight into whether consistency reflects an organizational high-point of rationalization to market and non-market needs, a rational acquiescence to institutional demands, or a hobgoblin inability of firms to serve either end effectively.

We next outline the empirical context of the study. The hypotheses will generalize to a wide range of contexts, but appropriate rules in any context will be specific to that context. Therefore, it is useful to understand the market and institutional setting in which one identifies relevant decision rules and assesses consistency in following them.

## **EMPIRICAL CONTEXT**

### **Women's General-Interest Consumer Magazines**

We will explore the effects and antecedents of consistency in a highly competitive and dynamic industry, women's general-interest consumer magazines, using a longitudinal panel of magazines sold in the U.S. from 1991 to 2004. We focus on three key decisions that affect the value of a firm's products to its customers and substantially affect firms' costs and revenues: advertising

price, subscription price, and the volume of editorial content. We draw on previous research and the industry press to specify the rules firms follow in making these decisions.

Women's general-interest consumer magazines (hereafter, women's magazines) provide an intriguing setting for the study of consistency. Unlike industries with limited ability to alter product attributes and strong technological reasons that create severe customer distaste for product variance – due to scale-intensive specialized production equipment, tight regulatory restrictions, and customers with heavy fixed investments in exacting and sensitive processes that have low tolerance for variation (e.g., commodity chemicals) – women's magazines generally outsource the asset intensive aspects of their business (production and distribution) and thrive on providing novelty. Women's magazines are primarily in the business of entertainment and communicating fashion in clothing, food, lifestyles, advice, parenting, health, and beauty. Though consistency has merits – readers might be unhappy if each issue challenged and rendered obsolete their cultural identities or expensive wardrobes – consistency is not the heart of entertainment and fashion. Hence, any forces favoring consistency in women's magazines must contend with both a desire and potential for frequent change.

Women's magazines are dominated by a handful of large publishing groups that act as holding companies and incubators of new magazines including Conde Nast (Advance Publications), Hearst, Hachette, Time, and Gruner & Jahr. These large publishing groups provide resources to individual magazines and in some cases influence managerial decisions at the magazine level (Granatstein 2001). The fates of individual magazines within a publishing group vary widely, however, because individual magazines frequently enter and exit even among these groups. Indeed, individual magazines in the groups often have strong separate identities and distinct management groups, and must meet individual performance targets. While Conde Nast may prop up ongoing losses at the socially prestigious New Yorker, the fates of its women's magazine holdings such as

Allure, Glamour, Self, and Vogue depend on their own performance, as is evident in Mademoiselle's demise despite almost seven decades of publication. With considerable variation in both independent variables and outcomes at the magazine level, the individual magazine rather than the publishing group provides the most useful unit of analysis (Freeman 1978: 351).

### **Rules for Management of Women's Magazines**

The best known rule in magazine management is an editorial-advertising page rule that guides the decision about how many editorial pages to print. Compaine (1982: 19-20) notes that "some publishers work hard at maintaining a given ad-copy ratio even as advertising increases". A recent survey found that about 65% of editors say they must abide by a specific ad-page-to-editorial page ratio (ASBPE 2003).

The editorial page rule serves several purposes. One reason for maintaining a stable relationship between the volume of editorial and advertising pages is to provide advertisers with a predictable amount of attention from readers. Indeed, the media kits that magazines distribute to potential advertisers frequently state an explicit target, guaranteed, or maximum ratio of advertising to editorial pages. Another reason for maintaining a predictable relationship between advertising and editorial pages is earnings stability: the prices readers pay rarely cover the full costs of editorial pages, which need to be subsidized by an adequate number of advertising pages. In his case study of the Saturday Evening Post, Roger Hall (1973: 38) concluded that the volume of pages over time "is determined by standard company practice [based on]...the amount of advertising purchased". The data Hall collected on the three major general consumer magazines of the day (The Saturday Evening Post, Look, and Life) displayed unique but uniformly tight linear relationships between total magazine volume and advertising pages.

We begin, therefore, by looking at consistency in following magazine-specific rules determining editorial page counts ( $e_{it}$ ) based on advertising page counts ( $a_{it}$ ):

$$e_{it} = \beta_{oi} + \beta_{li} a_{it} \text{ [1. Editorial page rule]}$$

The second common rule in magazine management guides the advertising price (Adrate) decision. Most consumer magazines derive more than half of their revenues from advertising. Advertisers generally are willing to pay more for magazines that reach a wealthier and “thirty-something” audience and for smaller circulation magazines which tend to have greater loyalty and more homogenous demographics (Compaine 1982: 57-58; Thompson 1989; Koschat and Putsis 2002). With a highly flexible potential supply of pages and fluctuating advertising demand, magazines have discretion to allow pages, prices, or both to shift over time. Magazines may be able to gain favor with advertisers and particularly with advertising agencies, however, by adjusting prices only to reflect changes in their own unique demographics and changes in their expected readership. Changing prices in response to changes in the value and cost of the product provided may well be seen as rational, fair and, legitimate; by contrast, other changes may be received as capricious or exploitive (Campbell 1999).

Therefore, we look for consistency in setting advertising prices ( $p_{ait}$ ) for upcoming issues using a rule that reflects a magazine’s unique characteristics and demographics  $D_i$  but rises with guaranteed circulation  $C_{it}$  for those upcoming issues at a potentially decreasing rate per reader ( $\lambda_i$ ); thus:

$$p_{ait} = D_i * C_{it}^{\lambda_i}$$

or [2. Advertising price rule]

$$\ln p_{ait} = \ln D_i + \lambda_i \ln C_{it}$$

There is less agreement about how magazines decide their prices to consumers and an ongoing debate argues about how a magazine’s costs (and profits) should be split among advertisers and consumers. While advertising can be valued and informative (Nelson 1974), most consumers would likely agree with the American Society of Magazine Editors that “The editorial content keeps

readers interested, while the advertising revenue enables magazines to keep subscription and newsstand costs affordable for average consumers” (ASME 2004).

Given that editorial content fluctuates with demand for advertising and that consumers do not expect to pay for ads, we expect that consumers will respond to consistency in the relationship between prices and editorial content. While consumers might respond positively to constant prices in the face of rising editorial content, they would likely see constant prices in the face of falling editorial content to be unfair (Campbell 1999).

We posit a rule of consistency in per-editorial-unit price ( $p_{ci}$ ) so that price responds to the value that has been placed on editorial pages in that magazine in the past ( $T_i$ ), adjusted with increases or decreases in trailing (apparent) editorial page count ( $e_{it}$ , from equation 1). We posit potentially decreasing per-page payment as the number of pages rises because they may become less interesting or less well tailored to any individual subscriber’s interests ( $\beta_i < 0$ ), thus:

$$p_{cit} = T_i e_{it}^{\beta_i}$$

or [3. Subscription price rule]

$$\ln p_{cit} = \ln T_i + \beta_i \ln e_{it}$$

These three rules – editorial page, ad price, and subscription price – create a deceptively simple set. Each rule is easy to enact on its own, but applying each rule causes changes that affect the other rules since the decisions are inputs or affect inputs to other decision rules. That is, the number of editorial pages (output of rule 1 and input of rule 3) affects subscription prices (output of rule 3), which affect circulation (input of rule 2), which affects advertising prices (output of rule 2), which affect the number of advertising pages (input of rule 1), which affects the number of editorial pages (output of rule 1). Moreover, decisions along each of these rules commonly fall under the direction of different units within a magazine’s organizational structure, with advertising departments having input into advertising prices, editorial departments making the case for changes in editorial

content, and marketing departments analyzing subscription prices. Thus, while seemingly simple, consistency across the set of three rules may require substantial organizational coordination. Similar tensions in simple sets of rules will be common across many types of organizations in many market and non-market settings.

## **ANALYSIS**

### **Data**

Longitudinal data are available for magazines only if they have grown large enough to subscribe to auditing services and be tracked by the industry data services. Therefore, we constructed the panel from the magazines listed in Standard Rate and Data Services' monthly publication Consumer Magazine Advertising Source (SRDS) which provides information on publication characteristics and advertising rates to the advertising community. To minimize alternative sources of variation in firm performance, we limited the study to magazines in two closely related SRDS content categories: "Women's" (category 49) and "Fashion, Beauty & Grooming" (category 50).

Seventy magazines appeared under these two primary headings in either the 1990 or 1991 September issues of SRDS. Of these, forty-nine survived through 1993, providing a long enough time series to measure consistency at least once. We eliminated seven of these magazines from the sample because they primarily served to promote affiliated commercial or religious groups (e.g., Weight-Watchers Magazine exists to support the large weight loss services and products chain). We also eliminated two Spanish language magazines, which fell outside the scope of the study. Of the remaining forty magazines, five never subscribed to the ABC audit service which served as an important source of data as we describe below, and we were unable to get sufficient advertising rate or advertising page data to include three other magazines in the analyses. Hence, our final sample included thirty-two general-interest consumer women's magazines that were operating in 1990 and

continued to operate at least until 1993, as Table 1 reports (owing to data availability, the analyses used from 29 to 32 magazines). We tracked the magazines through 2004, which was latest date with available data.

\*\*\*\*\* **Table 1 about here** \*\*\*\*\*

The magazines include a substantial range of interests within the general topic of women's magazines, as well as a substantial variety of new and established publications, as Table 1 notes. Magazines such as *Cosmopolitan*, *Good Housekeeping*, *McCall's* (later renamed *Rosie*), and *Vogue* began publication in the late 1800s. Others such as *Allure*, *First for Women*, *Mirabella*, and *Sassy* were first published in the late 1900s.

### **Performance Variables: Exit and Revenue**

*Exit* indicated magazines that ceased publication during the period under study. We determined the final issue from Ulrich's Guide to Periodicals and coded exit as the first day of the month of the final issue. Exit serves as one of the primary dependent variables in our study.

*Revenue* for each magazine was the sum of revenues from advertising and consumer sales. We calculated consumer sales revenue from subscription prices, cover prices, subscription sales, and single copy sales data obtained from the Audit Bureau of Circulations (ABC). We obtained data on advertising pages and revenue from the Publisher's Information Bureau (PIB) directly through their website for data from 1999 to 2004, from back issues of *Advertising Age* magazine for data prior to 1999, and through arrangement with TNS Media for all data prior to 1999 not reported by *Advertising Age*. Though PIB supplies all data for *Advertising Age* and TNS Media data, we found reliable matches when we checked overlapping information from the three sources. Revenue is a primary dependent variable in the study, while advertising prices (revenue divided by pages) and advertising pages are elements in two of the three rules we studied.

In addition to providing a performance variable, we use revenue as a potential explanatory

variable for consistency. Increases in revenue may act to legitimize the rules in use and lead to more commitment and adherence to those rules. If consistency results from superior performance but does not cause performance, then Weber's argument about the benefits of consistency may be spurious. For instance, organizations might reduce their experimentation when their performance improves, but the consistency that results from the reduced experimentation might not lead to new increases in performance and might even harm performance. Second, increased performance might lead to reduced consistency, even if consistency contributes to greater performance. Such an effect would arise if performance improvements led to increased slack within the organization. In addition, tensions around how to manage growth could display differential effects on different parts of a firm, thereby leading to inconsistencies across rules.

Indeed, if consistency is both a cause and an effect of performance, we may observe virtuous cycles of increased consistency and increased performance at some magazines, contrasted with vicious cycles of decreased consistency and decreasing performance at others. The strength, symmetry, and endpoints of such reinforcing processes would depend on the strength and shape of the causal links. For example, increased consistency might improve financial performance only at low levels of consistency, after which further increases in consistency have little effect. If so, in a population of relatively consistent organizations, virtuous cycles will be brief and difficult to observe. It may well be that declining consistency reaches no similar stable plateau in its influence on financial performance, so that downward spirals would be far more evident in the same population.

### **Decision Rules and Consistency**

The decision rules we examined related (1) editorial page volume to advertising page volume, (2) advertising price to circulation, and (3) subscription price to recent editorial page volume. First, we obtained editorial page counts from ABI Inform and advertising page counts from

PIB. When ABI or PIB did not provide data, we obtained page counts from InfoTrac, inspection of issues held at the Boston Public Library and Harvard's Schlessinger Library, issues that we purchased, and from Hall's Data Services. Second, we obtained advertising prices by dividing the advertising revenue figures by the advertising page figures in PIB. Third, we obtained subscription prices from ABC.

*Consistency* is the closeness of adherence to the decision rules, which we estimated for each firm over a moving window of seven half-year periods. Using the three rules, we estimate unique rule coefficients ( $B_i$ ) for each firm  $i$  from observed decisions ( $D_{it}$ ) and contingencies ( $X_{it}$ ) occurring within the moving window.

$$D_{it} = B_i X_{it} + \varepsilon_{it}.$$

We allow for unique rule coefficients for each firm in order to focus on the issue of consistency in applying rules, rather than compliance with some industry average rule. Estimating these coefficients for firms over a moving window allows us to differentiate between inconsistency and adaptation. Specifically, an organization can follow its rules precisely (i.e., be consistent) but make changes in the nature of its rules over time. Alternatively, an organization can be highly imprecise in applying its rules over time (be inconsistent) without making any fundamental changes or even experiencing any drift in those rules. While an organization that changes its rules during the time period of a study will register as less consistent than one that makes no changes, the moving window allows us to distinguish between organizations that are consistent while occasionally changing rules and organizations that simply are inconsistent.

We measure the apparent consistency  $C_{it}$  of a firm  $i$  at a time  $t$  based on the fit between actual decisions and estimated rules over the preceding  $n$  half-year periods. This approach follows from Weber's notion of precision, Hannan's and Freeman's (1984: 153) notion of "collective actions

with relatively small variance”, and Bowman’s (1963) implicit notion of consistency as no discrepancy between actual decisions and decisions generated by estimated (bootstrapped) decision rules. Mathematically, inconsistency is determined by the root mean square percentage error (RMSPE) of these estimates:

$$C_{it} = -RMSPE = -\sqrt{\sum_n (\varepsilon_{it}/D_{it})^2 / n}.$$

RMSPE is a goodness of fit measure similar to r-square. Both measures treat large deviations from the estimated rule as far more severe (more likely to be noticed or troublesome) than small deviations. RMSPE offers a desirable measure because it does not embed any judgment about the importance of the measured contingencies to the decision. R-square, by contrast, is higher (approaches one) for close adherence to highly sloped decision rules, but low for equally close adherence a decision rule with no slope (e.g., for a firm that maintains a nearly constant price over time). R-square makes sense as a measure of fit when the intention is to find a model that explains variance, but little sense in this context.

RMSPE, in contrast with r-square, is affected only by the closeness to which actual decisions adhere to the estimated rule. RMSPE is low for any slope of the relationship among decisions and observable information as long as the decisions closely follow the slope. For example, RMSPE allows a firm that holds a constant price to be measured as highly consistent while r-square would treat the same firm as extremely inconsistent. We approximated RMPSE by dividing by the root mean squared error (RMSE) of the regression by the dependent variable of the regression ( $D_i$ ) at the midpoint of each regression.

We define consistency as the negative of the RMSPE for ease of interpreting the statistical results. That is, inconsistency leads to high values of RMSPE and consistency leads to low values. Figure 1 reports examples of consistency over time.

\*\*\*\*\* **Figure 1 about here** \*\*\*\*\*

## Other Variables

*Age* is the time in years since the magazine was first published. SRDS reports the year of initial publication. By specifying that risk of failure begins in the first year of publication rather than at the beginning of the observation period, organizational age is directly incorporated into the hazard rate analysis. The equations use the log of the age when evaluating consistency to reflect standard learning curve findings and the necessary upper limit on consistency of zero deviations from the estimated rules.

Several additional variables improve the quality of the estimates and control for potential correlations between key independent variables of interest (i.e., consistency and age) and other factors influencing magazine performance. *Magazine size* is the number of subscribers since a magazine's subscriber base is the firm's most significant asset. ABC provided data on subscribers. We expect that size reduces the likelihood of failure.

*Group size* is the number of publications in all categories published by a magazine's publishing group. SRDS provided data on the number of publications by publishing group. Larger publishing groups may reduce the likelihood of exit by providing resources and expertise or increase the prospect of exit as the result of portfolio approaches to management. Larger publishing groups may also require their magazines to act more consistently in order to increase accountability and control (Weber 1946; Baum and Ingram 1998).

*Numcomp* is the number of women's magazines that ABC audited during the six month period. *Numcompsq* is the same number of magazines squared. More intense competition may increase the risk of organizational failure.

*Entry* is net increase (decrease) in women's magazines that ABC audited from the previous six month period. Recent entrants may have a different affects than other competitors on the survival

prospects of firms.

We determined *Breadth* of subject matter through a content analysis of all publisher statements (available in SRDS) that each magazine released during the study period (see Appendix A). A broader range of content may help a magazine to be more consistent due to greater degrees of flexibility in making internal adjustments (Ashby 1963) or make it more difficult to be consistent with a more complicated business where changes in one area require changes in another (Merton 1936). We expect magazines with greater subject matter breadth to appeal to a wider audience of consumers and advertisers and thus have higher revenues.

*Promotion* measures promotional expenditures as reported in the annual publication *Ad \$ Summary*, which is published by Leading National Advertisers, Inc. (LNA). LNA provides information on advertising expenditure in major media sources. Magazines that promote themselves will likely see a rise in revenues.

*Munificence* is the average revenue per women's magazine that ABC audits. The measure addresses changes in general economic conditions as they affect women's magazines.

*Tranquility* is the average consistency among the women's magazines in the sample. Tranquility addresses changes in conditions as they affect the ability of women's magazines to be consistent. The variable applies rule-by-rule, so that tranquility measures in the analyses are the average consistency among all women's magazines for the specific rule under study.

Table 2 reports summary statistics and correlations for the variables.

\*\*\*\*\* **Table 2 about here** \*\*\*\*\*

### **Statistical Technique**

We first test for the effects of consistency on performance using event history analysis, where the event of interest is the cessation of publication. We decomposed the data on each magazine into semiannual spells and updated the time-varying covariates for each magazine at the beginning of

each spell. The analysis retained only spells during which full historical data was available for the consistency estimates. We use the founding dates for each magazine to correct for survivor bias in left-censored data (Tuma and Hannan 1984: 128-132). Conditioning on founding dates shifts the definition of time at risk from chronological time to organizational age (Cleves, et. al. 2004) and allows the models to account for changes in the baseline hazard associated with magazine age.

We estimated the model with semi-parametric proportional hazards and several parametric functional forms that allow for monotonic or nonmonotonic duration dependence, finding similar results. The paper reports results based on the piecewise exponential model, which produced the largest log-likelihood of these models and the lowest (best) corresponding Akaike Information Criterion score (Cleves, et. al. 2004: 249). Piecewise constant exponential models allow for baseline hazard rates to vary nonmonotonically over pre-selected age ranges (Blossfeld and Rohwer, 1995). We divided the age ranges into  $n=5$  divisions of equal length followed by a final division that covers all greater ages. Our final model, therefore took the form:

$$r_j(t) = \exp(\alpha_i + \beta X),$$

where  $r_j(t)$  is the instantaneous risk that of ceasing publication for magazine  $j$  in time  $t$ ,  $\beta$  represents the vector of coefficients,  $X$  the vector of covariates, and  $\alpha_i$  a constant coefficient for the baseline hazard associated with the  $i$ th age period.

We estimated the models for revenue and consistency using linear methods for cross-sectional time-series data. Based on expected positive serial correlation in the disturbances (verified by a Durbin-Watson test) the models included corrections for panel-specific first-order serial correlation and disturbances that are heteroskedastic and contemporaneously correlated among panels. The models took the form:

$$Y_j(t) = \alpha + \beta X + e_j(t),$$

where  $Y_j(t)$  is alternatively the revenue or consistency of the firm at time  $t$ ,  $\beta$  represents the vector of coefficients,  $X$  the vector of covariates and:

$$e_j(t) = \rho_j e_j(t-1) + \gamma(t) + \mu_j(t),$$

where  $\rho_j$  is magazine specific autocorrelation in the disturbances,  $\gamma(t)$  is a period disturbance term, and  $\mu_j(t)$  is a magazine specific disturbance term, with  $\gamma(t)$  and  $\mu_j(t)$  having mean-zero normal distributions.

## RESULTS

Table 3a reports the survival results. Model 1 analyzes the control variables, including the piecewise baseline hazard rate estimates for different organization age ranges. The risk of exit for a magazine rises at a decreasing rate when more magazines are present. Net entry in the current period lowers the risk of exit, perhaps reflecting entrants appearing and contracting during or shortly after periods of strong overall industry performance.

\*\*\*\*\* **Table 3a about here** \*\*\*\*\*

Models 2, 3 and 4 of Table 3a test hypothesis 1 for survival, assessing how consistency in each of the three rules influences survival. The models incrementally add each rule to the analysis. For each of the three rules, consistency lowers the risk of failure. The result is statistically significant for the editorial page (models 2-4), advertising price (models 3-4), and subscription price (model 4) rules. Moreover, adding the three consistency variables to analysis significantly improves the overall model quality for model 4 relative to model 1 ( $p < 0.05$ ), based on improvements in the chi-square statistic when the models are fully nested. Thus, the findings reported in Table 3a support the idea that greater consistency leads to greater survival chances, supporting H1.

Table 3b reports the revenue results. Model 1 analyzes the control variables. Increased promotional expenditures (lagged by one period) have a logical but statistically insignificant effect

on revenues for most models. Increased average magazine revenues in the industry segment (munificence) lead to greater magazine revenues, with slightly less than a dollar-for-dollar impact. As expected, revenues tend to increase when magazines become part of larger publisher groups or expand the breadth of their content.

\*\*\*\*\* **Table 3b about here** \*\*\*\*\*

Models 2, 3 and 4 of Table 3b test hypothesis 1 with respect to revenue, assessing how greater consistency influences revenues. The models incrementally add each of the three rules. Greater consistency for each of the three rules leads to greater revenues, again supporting H1.

Table 4 reports how age and other factors influence consistency, to test hypothesis 2. On all three rules, consistency rises with age, showing that magazines become more consistent in following their rules over time. Thus, the results support hypothesis 2.

\*\*\*\*\* **Table 4 about here** \*\*\*\*\*

Several control variables influence consistency in Table 4. In both cases, consistency is higher for magazines in years that other magazines are more consistent (tranquility), suggesting that shared industry conditions affect consistency. Publisher group size has no apparent effect on consistency. Changes in magazine breadth may increase the consistency of advertising pricing, but breadth has no other impact on consistency. Increased revenue leads to lower consistency in applying the editorial rule but has no clear effect on the other rules. In sensitivity analysis, we also investigated asymmetric effects of changes in revenue on consistency (i.e., we created separate variables for increases in revenue and decreases in revenue) but found no significant evidence for either effect.

## **DISCUSSION**

We defined consistency as close adherence over time to a set of simple rules for conducting business and defined rules as relatively simple formal logical relationships between decisions and a

limited set of observable conditions. We found that close adherence to simple rules for three important decisions enhances financial performance and survival. We also found that organizations become more consistent on these rules as they age.

The results have strong conceptual implications for distinguishing between Weberian and Mertonian forms of consistency. Taken together the results provide strong support for the Weberian argument that consistency represents a high point in organizational development, where organizations learn over time how to follow rules that enhance performance. While we have not attempted to study rules that might be of particular interest to institutional demands such as the independence of editorial content from advertiser demands or the social desirability of content (e.g., language, nudity, sexual content), the evidence also supports an institutional argument that firms benefit by learning to follow rules that are tailored to gain support beyond exchange partners in addition to, but not at the expense of, market needs. By contrast, the evidence does not support a Mertonian explanation for organizational rules that stresses limits on managerial cognitive ability and political wrangling.

This is a demanding test of Weber's consistency argument. In order to provide evidence that consistency matters, not only must Weberian consistency matter but the rules around which consistency matters must be effective means of operating a magazine. These rules do not incorporate all considerations such as changes in input costs, competitive intensity, and market demand that factor into a fully specified model of period-by-period economic optimization. While the results do not prove that a highly effective period-by-period optimizer could not outperform consistent firms, it does suggest that being consistent has considerable value that can offset a loss of what might otherwise be feasible responsiveness to changing conditions.

The lack of an impact of performance on subsequent consistency has two primary implications. First, consistency does not appear to be a byproduct of success, while inconsistency

does not simply reflect the death throws of a troubled organization. Instead, the evidence that we found in these rules implies the opposite: organizations become more consistent when performance is falling. Second, except perhaps for editorial rule consistency, it appears that organizations do not adapt their consistency in response to falling performance. This raises interesting issues about how managers balance looking for new formulas for success with trying to succeed by more carefully enacting their current formula and the potential for pitfalls in changing too quickly (Sastry 1997).

Of course, one study of three rules in one industry does not provide a broad confirmation of Weberian optimism or disconfirmation of Mertonian concerns about organizations. We have explored only a few rules and fully expect that Mertonian consistency exists and may even be quite prevalent within organizations. However, the rules we examined here have a large and direct effect on a firm's performance, thus supporting the importance of the Weberian premise on rules.

Future work may be able to separate Weberian and Mertonian consistency along theoretically informed lines. For example, Weberian and Mertonian consistency might align with the nature of the rule and how that rule is enacted within an organization. Perhaps rules that are used frequently, are directly and powerfully connected to organizational goals, and generally allow for learning through rapid and unambiguous feedback are more likely to be Weberian (Levitt and March 1988). Rules that have a direct effect on organizational power distributions and have multiple contradictory affects on firm performance may be more likely to be Mertonian (Warner and Havens 1968; DiMaggio and Powell 1983; Hall 1984).

While it is interesting to know which rules are likely to be Weberian and which Mertonian, it will also be interesting to know what kinds of rules are most important to enact consistently and how firms should or do make tradeoffs when maintaining consistency on a few rules would increase the difficulty of maintaining consistency on other rules. Thus, studying the tension between individual rule consistency and system adaptiveness is a fruitful area for additional research.

One important aspect of rules that we have not explored in this research is the content of the rules. It is possible that some organizations have better rules or better sets of rules than others. Individual rule quality may be reflected in the parameters or more fundamental differences in the specification of the relationship between rules. Are some organizations able to determine and follow more sophisticated rules? If so, how do these organizations avoid or overcome the costs of coordination and apparent inconsistency and loss of external support that may accompany using these rules?

Finally, these results provide useful links to ongoing streams of research. The results potentially provide new perspectives on the reason why firms tend to undertake punctuated rather than continuous change (Tushman and Romanelli 1985). Punctuated change would appear to be more threatening because it forces firms to address many uncertainties simultaneously. Concentrating rule changes in short periods, instead, may allow firms to communicate changes to key stakeholders and maintain consistency along old and new stated rules, thereby minimizing the perception of reduced consistency. Additionally, finding support for Weberian consistency bolsters the case for research on organizational routines and capabilities, and supports evolutionary approaches that model firms as rule followers in order to investigate firm performance and industry dynamics (Nelson and Winter 1982). As we further explore the antecedents of rule following using consistency as a dependent variable, we may encounter new insights into how organizational design, strategic choices, and other managerial practices reduce or enhance consistency.

## **Appendix A: Content Analysis Description**

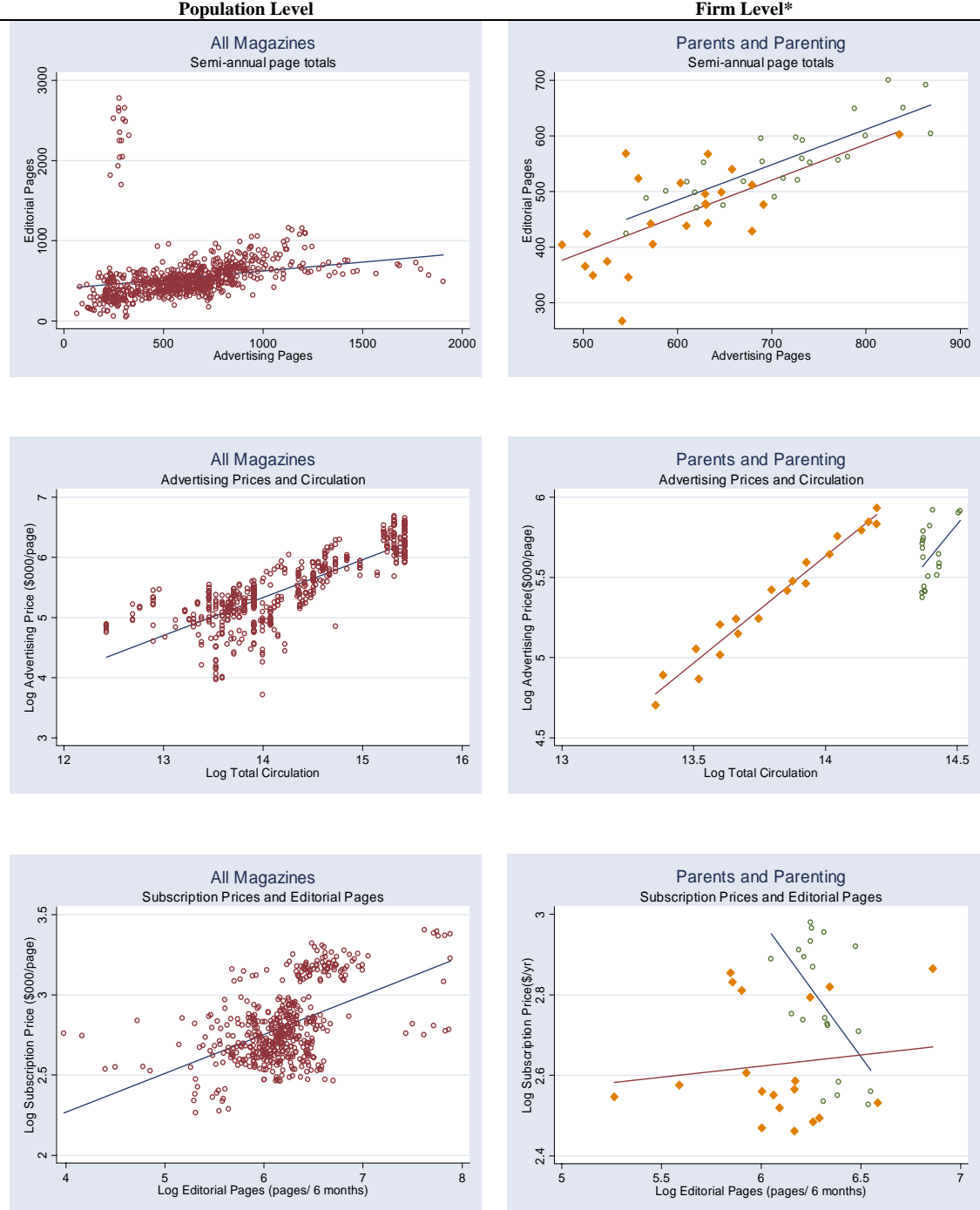
We determined breadth of subject area for each magazine through a content analysis of the publisher statements appearing in SRDS. We assembled all unique words from the publisher statements into a system of 24 codes that one of the authors judged to capture the meaning of the words and the kinds of topics that the category and intended audience demographics addressed. Two undergraduate research assistants applied this system of codes to the publisher statements.

Afterward, the research assistants and the author who had coded the words discussed the meaning of each code, relationships among the codes, and topics from the publisher statements that the original coding scheme did not cover. This led to the addition of one code to capture a missing topic area (celebrities), the elimination of two codes that functioned as catchalls (lifestyle and achievement), the combination of two codes that were difficult to distinguish (entertaining and entertainment), and a clearer definition and delineation of the remaining codes. We compared the resulting codes against the description of women's magazines in the introduction to Endres and Lueck's (1995) *Women's Periodicals in the United States: Consumer Magazines* and added two additional codes (sex and cooking). The final codes were: African American; art & culture; beauty; career; celebrities; cooking; crafts; entertaining & entertainment; family relationships; fashion; fitness; home; literature; mature; money; news; nutrition; psychology; relationships; sex & sexuality; singles; teenage; travel; and youth.

The two research assistants and one of the authors then coded all of the 107 unique publisher statements. The procedure included double-coding half of the statements in order to assess reliability of the coding scheme. Cohen's Kappa value of 0.70 indicated substantial inter-coder agreement (Stemler 2001; Arndt and Bigelow 2000).

**Figure 1**

Rules at the population and firm level



\* Circles represent Parent's magazine and diamonds represent Parenting magazine

**Table 1**

<b>Magazines included in the study</b>			
<b>Magazine Name (Publisher)</b>	<b>Founded</b>	<b>Cease Date</b>	<b>Publisher Statement 1991</b>
1 Allure	1991	Active	A covers beauty including information on fitness, health, nutrition, travel, design, fragrance, food, fashion, literature, film, art, theatre, and music.
2 Cooking Light	1987	Active	CL focuses on nutritious food and healthy living in America. Emphasizing moderation, variety and balance, the editorial presents a mainstream approach for combining the ideas of in home preparation of nutritious, appetizing food with regular, sensible exercise as the basis for a healthier lifestyle.
3 Cosmopolitan	1886	Active	C is edited for young women for whom beauty, fashion, fitness, career, relationships, and personal growth are top priorities. Nutrition and food, travel, personal finance, home/lifestyle and celebrities are other interests reflected in the editorial lineup.
4 Elle	1945	Active	E is a fashion magazine edited for the woman who seeks a daring, innovative approach to style. Each issue covers the latest international trends in fashion, beauty, health, the arts, cuisine and more. E is the magazine for today's Black woman. Edited for career minded, sophisticated and independent achievers. Essence's editorial is dedicated to helping its readers attain their maximum potential in various lifestyles and roles. The editorial content includes career and educational opportunities: fashion and beauty; investing and money management; health and fitness; parenting; information on home decoration and food; travel; cultural information and profiles of achievers and celebrities.
5 Essence	1970	Active	FC is written for contemporary women. Editorial provides information on a variety of today's issues ranging from financial planning to food, from health to beauty and fashion to planning the perfect family outing.
7 First For Women	1989	Active	FFW is edited for today's contemporary woman. Editorial features fashion, food (including recipe cards to collect and a cookbook), decorating and beauty.
8 Glamour	1939	Active	G is edited for the contemporary American woman. It informs her of the trends, recommends how she can adapt them to her needs, and motivates her to take action. Over half of the editorial focuses on beauty, fashion, and health along with coverage on personal relationships, career, travel, food, entertainment, and the home
9 Good Housekeeping	1885	Active	GH is edited for the new traditionalist - the modern woman with traditional values. Articles focus on food, fitness, beauty and child care, and draw upon the resources of the good housekeeping institute. Editorial mix includes human interest stories, articles that focus on social issues, money management, health news, travel, and 'the better way' an 8-page hard-fact guide to better living.
10 Harpers Bazaar	1981	Active	HB provides fashion and beauty guidance and inspiration of today's American woman.
11 Ladies Home Journal	1883	Active	LHJ is edited for today's American woman with features and articles that address a variety of her special interests. Editorial includes coverage of beauty and fashion, food and nutrition, health and medicine, home decorating and design, parenting and self help, personalities and current events.
12 Lear's	1987	Apr-94	L is edited for the sophisticated, educated and affluent woman. L blends entertainment and information to present that which is good in this rewarding stage of life. In depth articles emphasize the essentials in a woman's life; the health of her mind and body; her work ; her interests; her relationships; her money. The magazine includes comments on the American scene, reportage, culture, fashion, food and wine, etc.
13 Mademoiselle	1935	Nov-01	M is edited for young, single, affluent career women, and covers fashion and beauty, as well as health and fitness, career, food, entertainment and other elements of their on the go lifestyles
14 McCall's (later Rosie)	1876	Dec-02	M is edited for the sophisticated contemporary woman helping her with the information she needs for her busy daily life everything from personal inspiration to factual how to service. Each issue features food, home, design, fitness, childcare, health, home management, beauty, money management, fashion, book excerpts, personal relations, fiction personality and celebrity profiles
15 Mirabella	1989	Jun-00	M is as much about fashion as it is about politics, travel, the arts. Each month, the magazine presents current issues, conversations, contemporary fiction, fashion and beauty features emphasizing ease and substance
16 New Woman	1970	Jan-00	NW presents new ideas, choices, and alternatives for women wishing to explore their possibilities while meeting the growing demands of work, family, and personal achievement. Editorial includes articles on fashion, beauty, health, diet, fitness, food, and career development. Special edition emphasis is given to self improvement, self esteem, self discovery, and personal relationships
17 Parenting	1987	Active	P is edited from the viewpoint of the educated, contemporary woman who must deal simultaneously with the demands of child rearing, personal growth and family life through regular features on psychology, education, health, food, toys and fashion. Parenting focuses specifically on a parent's needs as they are related to living with children through their first ten years

**Table 1 (Cont'd)**

Magazine Name (Publisher)	Founded	Cease Date	Publisher Statement 1991
18 Parents	1926	Active	P is edited for young women 18 to 34 with growing children. Editorial coverage emphasizes family formation and growth, focusing on the day to day needs and concerns of today's woman as a mother and as a woman. Regular departments include Beauty, Food, About the House, Family Finance, As they Grow, Love and Marriage, Almanac, The Healthy Parent, Education, About Fathers, How to Pet Set
19 Redbook	1903	Active	R is edited for young women today, who are juggling the demands and rewards of husband, child and jobs. Articles are geared towards helping her make first time decisions in her complicated life ranging from personal relationships, home, money management, children and childcare to beauty, fashion, fiction, food and nutrition
20 Sassy	1988	Dec-96	S is a lifestyle magazine edited for today's young women 14-19. Sassy takes a supportive, non-judgmental approach to the issues that confront young women as they begin the process of learning to manage change in their lives. Contains articles on fashion, beauty, contemporary social issues, human relationships, pop culture and current trends. S regularly includes special features such as pullout records and oversized posters, the Saggiest Girl In America Contest and regular columns written by readers.
21 Self	1978	Active	S magazine is edited for the personal needs of today's smart, confident working women. It covers the current issues that affect their lives from health and personal relationships to beauty and fashion, from nutrition and fitness to careers and money management
22 Seventeen	1944	Active	S is a young woman's general service magazine with a special emphasis on fashion and beauty. Its monthly contents also includes information on food, and lifestyle. Coverage includes general articles, arts coverage--movies, music, television celebrity profiles, fiction and monthly columns devoted to health, sex, advice, pets, travel, automobiles, sports. Contemporary issues address such topics as alcohol, drugs, sex, family relationship, friendship, education, and careers
23 Shape	1981	Active	S is a lifestyle magazine for the '80s woman, devoted to delivering information on the various aspects of fitness - physical, nutritional and psychological
24 Teen	1957	May-02	T is edited for 12 to 19 year old girls. Editorial is directed toward making a wholesome contribution to young America and its future. Teen provides a spectrum of contemporary information to help young girls on self improvement in areas of grooming and physical and intellectual development. Coverage includes letters to editors, columns such as We Get, Dear Jack, and Dear Jill plus regular contests and pen pal offers
25 True Story	1919	Active	TS magazine is edited for young women. In addition to story editorial, regular articles include recipes and food features, beauty and health, home management, parenting and personal advice
26 Victoria	1978	Jun-03	V is a magazine for contemporary women who choose to incorporate the richness and grace of the past into a personal lifestyle. Victoria's editorial features on fashion, beauty, entertainment and the home emphasize the details of traditions and elegance
27 Vogue	1892	Active	V is edited for the women who has more choices than ever before- for herself and her family, at home and at work. She considers style a way of life. Vogue is a source of new ideas and information and a guide to living well. The magazine's editorial pages cover fashion, beauty, health, fitness, travel, the arts, money, food, entertaining and home furnishings. V also features interviews and articles by contributing writers.
28 W	1972	Active	W is edited for the affluent, educated woman. Articles include a blend of the best in fashion, lifestyle, beauty, travel and social commentary
29 Woman's Day	1937	Active	WD is written and edited for the contemporary woman. WD's editorial package covers the various issues that are important to women today. Editorial features are devoted to information on Food & Nutrition, Health & Fitness, Beauty & Fashion, as well as the traditional values of Home, Family and Children. The changing needs of women are also addressed with articles that focus on Careers, Money Management, Law, Computer Technology and Relationships.
30 Workbasket	1935	Mar-96	W editorial stresses needlework, crafts, cooking and other home activities. Regular features include patterns and information on knitting, crochet, tatting, and other various stitch projects; crafts projects; readers recipes; puzzles; cat column; health & beauty tips; gardening tips and a product profile.
31 Working Woman	1976	Sep-01	WW is edited for women who are in management careers, in business. Contents include a special section devoted to entrepreneurs as well as articles on business news, business and economic trends, technology, law, politics, current issues, finance, investment options, career fields, management, the social and behavioral sciences, travel and other lifestyle editorial as well as fashion, health, beauty and entertaining.
32 YM	1955	Active	YM covers fashion, beauty, entertainment and personal issues and is edited for the 14-20 market--the younger affluent woman in college or prepping to go. Features and columns cover fashion fads, fashion classics, cosmetics from subtle to brash, health and nutrition, skin regimens, fitness regimens, hair regimens, guys, parents, music starts, movie starts, part time jobs of today, full time careers of tomorrow, and college in between

**Table 2**

## Summary Statistics and Product Moment Correlations

Variable	Obs	Mean	SD	Min	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
1. Exit	786	0.013	0.112	0	1	1.0																	
2. Revenue (\$ millions semi-annual)	703	77.010	57.161	8.071	302.539	-.08	1.0																
3. Editorial Consistency	619	0.120	-0.141	1.857	0.000	-.03	.14	1.0															
4. AdRate Consistency	626	0.012	-0.012	0.115	0.000	.02	.23	.18	1.0														
5. SubPrice Consistency	591	0.016	-0.017	0.125	0.000	-.07	.21	.08	.22	1.0													
6. Log Age (age in days)	786	9.49	0.92	6.78	10.74	-.03	.69	.11	.21	.15	1.0												
7. Size (millions of subscribers)	780	1.331	1.085	0.009	4.512	-.04	.76	.01	.18	.01	.57	1.0											
8. Breadth (No. of content cateogires)	786	7.238	2.511	1	14	-.08	.17	.20	.16	.13	.24	.22	1.0										
9. Group Size (No. of publications)	786	21.257	15.409	1	87	.01	.31	-.02	.19	-.11	.28	.37	-.03	1.0									
10. Numcomp (No. of competitors)	786	44.246	4.460	37	50	.02	-.16	-.06	-.14	-.05	.02	-.04	-.01	.17	1.0								
11. Promotion Expense (\$ thousands)	744	382.5	842.3	0.000	7,652.9	.02	.47	.03	.17	-.04	.20	.32	-.07	.15	-.15	1.0							
12. Entry (Net change in # magazines)	754	0.102	1.471	-2	4	.00	-.27	-.08	-.05	.07	-.14	-.07	.04	-.12	.12	-.27	1.0						
13. Editorial Pages (total semi-annual)	738	539.57	318.64	48.16	2,776.00	-.05	-.04	.22	-.28	-.14	-.14	-.25	.01	-.14	.03	-.05	-.06	1.0					
14. AdRate (\$ thousands per page)	742	71.776	46.537	8.411	262.967	-.03	.94	.10	.19	.07	.60	.75	.15	.30	-.15	.52	-.35	-.08	1.0				
15. SubPrice (\$ per year)	748	19.28	4.80	9.97	34.00	-.06	.14	.18	.02	.20	.06	-.24	-.14	-.08	-.02	.04	-.09	.54	.00	1.0			
16. Advertising Pages (total semi-annual)	759	609.97	285.78	65.80	1,905.81	-.12	.55	.27	.26	.33	.50	.12	.10	.17	-.03	.12	-.14	.20	.35	.46	1.0		
17. Circulation (thousands)	780	1,909	1,407	161	5,372	-.07	.81	.04	.13	.05	.61	.91	.29	.38	-.02	.27	-.04	-.11	.78	-.14	.07	1.0	
18. Advertising Rate Base (thousands)	781	1,856	1,389	250	5,000	-.05	.81	.03	.13	.04	.60	.91	.29	.37	-.03	.27	-.05	-.12	.78	-.15	.05	0.99	

**Table 3a**

<b>Determinants of Survival: ML Estimates of Piecewise Exponential Models of the Rate of Magazine Closure, 1991 to 2004 (Positive coefficient = more likely to fail)</b>				
<b>Variable</b>	<b>1. Baseline</b>	<b>2. Ed Rule</b>	<b>3. Ed &amp; Ad Rules</b>	<b>4. Ed&amp;Ad&amp;SP Rules</b>
Size (millions of subscribers)	-0.506 (0.398)	-0.727 (0.506)	-0.701+ (0.365)	-0.973* (0.459)
Numcomp (No. of competitors)	4.384* (1.815)	5.732* (2.312)	15.330+ (7.879)	17.477 (11.779)
Numcompsq	-0.049* (0.020)	-0.065* (0.026)	-0.169+ (0.089)	-0.190 (0.131)
Entry (Net change in # magazines)	-0.722* (0.368)	-0.619 (0.848)	-3.886* (1.758)	-6.290* (2.969)
Editorial Consistency (H1 -)		-2.757* (1.109)	-2.829* (1.215)	-2.939* (1.360)
AdRate Consistency (H1 -)			-0.160** (0.058)	-0.206* (0.118)
SubPrice Consistency (H1 -)				-18.628* (8.369)
Age since founding (coefficient on days)				
0-5 years (a)	-122.557** (40.134)			
5-10 years	-105.246** (40.315)	-133.123** (49.949)	-356.623* (175.537)	-432.822 (267.587)
10-15 years	-106.591** (39.893)	-135.254** (50.024)	-359.001* (175.782)	-416.440 (268.316)
15-20 years	-123.834** (39.994)	-153.826** (50.235)	-381.830* (177.187)	-442.300 (272.338)
20-25 years	-124.171** (40.024)	-154.302** (50.275)	-381.689* (176.780)	-442.060 (272.118)
>25 years	-106.238** (40.011)	-134.609** (50.375)	-359.394* (176.618)	-417.143 (269.134)
No. of spells (exits) (b)	744 (10)	478 (8)	444 (7)	328 (7)
Wald ChiSq (df)	755.59 (10)	616.97 (10)	473.30 (11)	380.77 (12)

\*\* p<.01, \*p<.05, +p<.10 (two-tailed tests for controls; one-tailed tests for hypotheses; robust standard errors in parentheses)

Notes:

(a) Models 2 to 4 do not have any exits in the 0-5 year age because the only magazine that exits that young is Lear's, which lacks data needed to estimate editorial consistency accurately prior to its exit (thus, Lear's is present only in the baseline model).

**(b) Model 1 = 32 magazines; model 2 = 29 magazines; models 3 & 4 = 27 magazines. Each model has fewer spells because spells are dropped to insure that consistency estimates are based on full information about previous periods. As reflected in number of exits, dropping spells can but does not always eliminate all observations for one or more magazines.**

**Table 3b**

<b>Determinants of Revenue: Prais-Winsten Panel Corrected Standard Error Estimates (\$Millions; positive coefficient = greater revenue)</b>				
<b>Variable</b>	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>	<b>Model 4</b>
Promotion	1.062 (1.231)	1.726 (1.490)	1.473 (1.502)	6.158* (2.589)
Munificence	0.783** (0.053)	0.809** (0.065)	0.809** (0.071)	0.823** (0.077)
Group Size	9.728** (1.785)	10.499** (2.241)	12.290** (1.748)	14.536** (2.163)
Breadth	1.537** (0.399)	1.409** (0.467)	1.232** (0.429)	1.654** (0.521)
Editorial Consistency (H1 +)		13.453* (6.023)	13.475* (6.248)	14.969* (6.985)
AdRate Consistency (H1 +)			0.258** (0.107)	0.239* (0.111)
SubPrice Consistency (H1 +)				399.345** (95.265)
Constant	-32.750** (6.498)	-31.580** (8.279)	-29.987** (7.988)	-31.944** (9.644)
Observations	660	487	458	352
Number of Magazines	32	29	28	27
R-Square	0.57	0.62	0.62	0.68

The panel is treated as having panel-specific first-order autocorrelation  
\*\*p<.01, \*p<.05, +p<.10 (two-tailed tests for controls; one-tailed tests for hypotheses)

**Table 4**

<b>Determinants of Consistency: Prais-Winsten Panel Corrected Standard Error Estimates (\$ Thousands; positive coefficient = greater consistency)</b>			
<b>Variable</b>	<b>Model 1: Editorial Consistency</b>	<b>Model 2: AdRate Consistency</b>	<b>Model 3: SubPrice Consistency</b>
Log Current Age (H2 +)	0.326** (0.061)	0.160* (0.079)	0.343* (0.156)
Turbulence	1.155** (0.091)	0.912** (0.130)	0.571** (0.114)
Group Size	0.035 (0.044)	0.039 (0.040)	-0.023 (0.104)
Breadth *	0.022 (0.014)	0.031* (0.015)	-0.004 (0.022)
Revenue * (\$m)	-4.434** (1.017)	-0.724 (1.100)	-0.946 (1.953)
Constant	-3.472** (0.609)	-2.009* (0.891)	-1.308 (1.456)
Observations	451	439	365
No. of Magazines	30	30	28
R-Square	0.73	0.70	0.85

The panel is treated as having panel-specific first-order autocorrelation. Variables with asterisks are lagged eight periods to correspond with the beginning of the period over which consistency was estimated.  
\*\*p<.01, \*p<.05, +p<.10 (two-tailed tests for controls; one-tailed tests for hypotheses)

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