ILR Review

Volume 57 | Number 4 Article 6

July 2004

Taking Stock of Work-Family Initiatives: How Announcements of "Family-Friendly" Human Resource Decisions Affect Shareholder Value

Michelle M. Arthur
University of New Mexico

Alison Cook
Utah State University

Taking Stock of Work-Family Initiatives: How Announcements of "Family-Friendly" Human Resource Decisions Affect Shareholder Value

Abstract

This study examines share price reactions to 231 work-family human resource policies adopted by Fortune 500 companies and announced in the Wall Street Journal between 1971 and 1996. Consistent with past research, the results suggest that firm announcements of work-family initiatives positively affected shareholder return. The authors also empirically test three hypotheses concerning how the timing of work-family initiatives influences shareholder reaction. They find that a pioneering company announcing the first-ever implementation of a work-family initiative was likely to realize a larger announcement-day share price increase than did later adopters of the same initiative; the first workfamily announcement released by a firm influenced announcement-day share price more than did successive work-family announcements by the same firm; and share price reactions to work-family human resource decisions were not importantly affected by whether those decisions followed a gender discrimination suit.

TAKING STOCK OF WORK-FAMILY INITIATIVES: HOW ANNOUNCEMENTS OF "FAMILY-FRIENDLY" HUMAN RESOURCE DECISIONS AFFECT SHAREHOLDER VALUE

MICHELLE M. ARTHUR and ALISON COOK*

This study examines share price reactions to 231 work-family human resource policies adopted by Fortune 500 companies and announced in the *Wall Street Journal* between 1971 and 1996. Consistent with past research, the results suggest that firm announcements of work-family initiatives positively affected shareholder return. The authors also empirically test three hypotheses concerning how the timing of work-family initiatives influences shareholder reaction. They find that a pioneering company announcing the first-ever implementation of a work-family initiative was likely to realize a larger announcement-day share price increase than did later adopters of the same initiative; the first work-family announcement released by a firm influenced announcement-day share price more than did successive work-family announcements by the same firm; and share price reactions to work-family human resource decisions were not importantly affected by whether those decisions followed a gender discrimination suit.

Work-family programs have long been considered innovative; however, newer arguments suggest they should also be considered a best practice (Perry-Smith and Blum 2001). Work-family programs may provide the infrastructure necessary to attract the best human resources. Researchers have shown that such programs increase firms' ability to attract and retain employees (Carmichael 1984; Grover and Crooker 1995; Thompson, Beauvais, and Carter 1997). Further, scholars have found that work-family programs allow employees to work more efficiently (Gannon, Norlan, and Robeson 1983; Rothausen, Gonzalez, Clarke, and O'Dell 1998). Consistent with those results, researchers also have found that work-family programs positively affect perceived firm performance (Perry-Smith and Blum 2001).

This study adds to our understanding of the relationship between work-family initiatives and firm-level outcomes in several ways. First, we add to a limited literature

*Michelle M. Arthur is Associate Professor at the Anderson Schools of Management, University of New Mexico, and Alison Cook is Assistant Professor, College of Business, Utah State University.

A data appendix with additional results, and copies of the computer programs used to generate the results presented in the paper, are available from the first author at Anderson Schools of Management, University of New Mexico, 1924 Las Lomas NE, Albuquerque, NM 87131-1221; e-mail arthur@mgt.unm.edu.

Industrial and Labor Relations Review, Vol. 57, No. 4 (July 2004). © by Cornell University.
0019-7939/00/5704 $01.00

Table 1. Prior Event Study Analyses of Human Resource Announcements.

Study	*Years Studied*	*Type of HR Event Announcement*	*Share-Price Reaction*
Arthur 2003	1971–1996	Work-family initiatives; pre- and post-legitimation	Positive return on the day of the announcement, with post-legitimation resulting in the greatest gain (.36%, .38%)
DiNardo and Hallock 2002	1925–1937	Strikes	Negative effects on monthly industry shareholder return (–1.2%)
Filbeck 2001	1997	"20 Better Places to Work" in *Mother Jones*	Negative shareholder return within a three-day window of the announcement (–.46%)
Farber and Hallock 1999	1970–97	Layoff announcements	Negative shareholder return on the day of the announcement (–.38%)
Hallock 1998	1989–95	Layoff announcements	Negative shareholder return on the day of the announcement (–.4%)
Datta and Iskandar-Datta 1996	1989–91	Layoff announcements	Negative shareholder return on the day of the announcement (–.8%)
Hannon and Milkovich 1996	1982–89	Announcements of the following: Best for Blacks; Most Preferred; 100 Best to Work For; Best for Working Mothers; Best for Women; Best for Black Engineers	None of the reputation announcements significantly affected shareholder return on the day or month of the announcement except "Best for Working Mothers," which had a positive effect (2.7%)
Wright, Ferris, Hiller, and Kroll 1995	1986–92	(a) Department of Labor Awards for Affirmative Action Programs, and (b) Damage awards from settlements of discrimination lawsuits	(a) Department of Labor Awards positively affected shareholder return on the day of the announcement (.47%), and (b) damage awards negatively affected shareholder return on the day of the announcement (–.37%)
Lauterbach and Vu 1992	1975–84	"Best Manager Award" for CEOs in *Financial World*	Monthly valuation was positive in the pre-award period, and with corrections for size and risk, there were normal returns in the post-award period; no effect on the day of the announcement (–.01%)
Abowd, Milkovich, and Hannon 1990	1980, 1987	Announcements of general HR decisions, compensation, staffing, relocation, shutdown, and safety	No consistent pattern with regard to shareholder return on the day of the announcement (.39%, .22%)

investigating the relationship between work-family programs and capital markets (Arthur 2003). Specifically, we examine share price reactions to firm announcements of work-family programs. Second, we introduce timing as an important variable to consider in modeling the relationship between human resource initiatives and firm performance. In doing so, we apply the first-mover advantage (FMA) model, a model typically applied to the product market, to the human resource market. The combination of a focus on work-family programs, the FMA model, and the consideration of timing allows us to introduce previously untested hypotheses.

As a starting point, we discuss the historical evolution and definition of work-family programs. We then examine the literature suggesting a relationship between human resource initiatives and share price reaction, and we discuss why we expect to find such a relationship. Further, we explore investor reactions, across organizations and within organizations, to initial work-family announcements versus subsequent work-family announcements. We conclude by examining whether investors' reactions to a work-family announcement are influenced by whether the firm making the announcement has experienced negative gender-related press.

Historical Overview

Work-family scholars trace the development of work-family programs to World War II (Glass and Estes 1997). At that time, men were called to war, and women were required to work in war-supporting manufacturing industries (Glass and Estes 1997). The government, recognizing the need to lighten the burden that dual family and work responsibilities placed on women, opened temporary childcare centers (Glass and Estes 1997). National firms did not begin to replicate government-instituted onsite childcare centers until the early 1970s. For practical purposes, in fact, Stride Rite Corporation's 1971 adoption of the first widely publicized onsite childcare center was the first work-family initiative by a major corporation.[1] Throughout the 1970s and 1980s several derivatives of onsite childcare centers were developed. Childcare programs such as off-site consortiums, emergency/sick care centers, and referral services provided a lower-cost alternative to onsite childcare centers (Friedman 1990). In the late 1980s, work-family programs evolved to include elder care services and family counseling services (Friedman 1990).

In the 1990s, when firms began to recognize time flexibility as a way to alleviate work and family conflict, they developed programs such as flextime, compressed and shorter workweeks, job sharing, and telecommuting. Restructuring the way people work is, perhaps, the most expensive work-family human resource adaptation. Work-family programs tend to fall into three categories: dependent care, family stress abatement programs, and flexible work arrangements. This paper defines work-family programs as any human resource program designed to alleviate work and family conflict.

Literature Review

Using the event study methodology, researchers have explored the relationship between human resource practices and share price reactions (see Table 1). Scholars have examined the negative impact on

[1]Observers have cited Stride Rite's childcare program as precedent-setting. "The company [Stride Rite] is widely credited with having pioneered on-site daycare" (Beer 1997); "When Stride Rite Corporation opened its on-site daycare center in Roxbury, MA in 1971, it was a pioneering achievement" (McIntyre 2000). Our confidence that few if any important work-family initiatives were implemented prior to 1971 is strengthened by Friedman's (1990) overview of such initiatives. Recognizing Stride Rite as the organization with the first on-site daycare, Friedman went on to say, "During the 1970's there was scattered corporate experimentation with childcare, but serious activity did not occur until the 1980's.... Serious corporate interest in work and family concerns began with a handful of companies sponsoring on-site childcare centers in the late 1970's. Throughout the 1980's interest mushroomed."

share price of human resource actions such as strikes (DiNardo and Hallock 2002) and layoffs (Datta and Iskandar-Datta 1996; DiNardo and Hallock 2002; Farber and Hallock 1999; Hallock 1998). The results suggest that share price decreases on the day of the announcement.

Other scholars have focused on share price reactions to announcements of human resource program awards (Filbeck 2001; Hannon and Milkovich 1996; Wright, Ferris, Hiller, and Kroll 1995; Lauterbach and Vu 1992). These studies suggest that reputation creates wealth and moderates the announcement–share price relationship. Several awards have been examined, including "20 Best Places to Work" (Filbeck 2001), Department of Labor Awards for Affirmative Action (Wright, Ferris, Hiller, and Kroll 1995), and "Best Manager Award" (Lauterbach and Vu 1992). The results have been mixed at best. Hannon and Milkovich (1996) conducted perhaps the most comprehensive study of firm awards, examining "Best for Blacks," "Most Preferred," "100 Best to Work For," "Best for Working Mothers," "Best for Women," and "Best for Black Engineers." The "Best for Working Mothers" award produced the only statistically significant positive share price reaction.

Aside from general human resource awards, Abowd, Milkovich, and Hannon (1990) examined more specific human resource practices or "general human resource systems changes," of which work-family policies were a component. The results did not show a consistent pattern, and the authors suggested that future research should focus on specific types of human resource decisions. Arthur (2003), using institutional theory, focused exclusively on work-family policies. Her research examined pre- and post-institutionalization share price reactions to work-family announcements. In addition, several firm characteristics were investigated as potential moderators of the relationship. The present paper, like Arthur (2003), looks solely at work-family policies. Our study, using an efficiency-based perspective, focuses on work-family programs and specifically examines the timing of a work-family announcement.

Hypotheses

The costs of work-family programs vary based on the type, size, and location of the program. Government estimates of the costs of childcare programs range from $20 thousand to $1 million. As an incentive to firms, the government offers a 25% tax break to corporations that open a childcare center with certain qualifications. While firms incur costs from work-family programs, human resource theorists suggest that the programs are a profitable investment.

Human resource theory suggests that the benefits of a work-family program will exceed the costs. Within the price-theoretic model, the underlying processes are complex. Scholars argue that by announcing a work-family human resource decision to investors, a firm reveals its intention to provide the infrastructure necessary for it to become more efficient in three different ways.

First, the announcement of an innovative work-family policy allows organizations to manipulate their organizational reputation and create "intangible wealth" (Fombrun 1996). This intangible wealth allows a firm to attract an enlarged pool of applicants (Carmichael 1984). A larger applicant pool from which to select workers, assuming selection processes are reliable, should result in the hiring of more qualified employees (Hannon and Milkovich 1996). Better workers should yield higher productivity and profits, for a sustained competitive advantage (Hannon and Milkovich 1996). Noting this sequence of events, investors should influence firm stock price to reflect the increased firm value.

Second, the organization will be better able to retain talented employees (Grover and Crooker 1995; Thompson, Beauvais, and Carter 1997). Grover and Crooker (1995) found that employees who had access to work-family programs evinced greater organizational attachment and less

intention to quit their jobs, regardless of the extent to which they benefited from the policy, than did employees who lacked access to such programs. Lower turnover rates reduce employers' training costs. Retaining talented employees allows firms to maintain the human resources necessary for a competitive advantage. The reactions of potential investors who recognize that work-family human resource programs will generate lower turnover rates and greater firm commitment, and hence lower operating costs, should increase firm value.

Third, many of these programs do help employees to balance work and family life. Initial studies suggested that work-family policies reduced work-family conflict, thus generating less employee absenteeism, higher levels of employee satisfaction, and potentially more productive employees (Gannon, Norland, and Robeson 1983). Follow-up research qualified those initial findings with evidence that while users of the programs could better balance work and family, many non-users who did not need the programs resented them, and others who needed them but could not access them were frustrated (Goff, Mount, and Jamison 1990; Kossek and Nichol 1992). However, an investigation of the potential "backlash" to work-family policies led researchers to conclude that policies offering assistance to employees in need are interpreted by workers in general as a sign of concern for them, and positively affect their behaviors (Grover and Crooker 1995), and current research suggests that the benefits to employees of work-family programs exceed the potential costs of any backlash (Rothausen, Gonzalez, Clarke, and O'Dell 1998). Indeed, if employees can better balance work and family concerns, it seems reasonable to expect them to be more satisfied, less prone to absenteeism, and more productive (Rothausen, Gonzalez, Clarke, and O'Dell 1998).

All three human resource processes allow an organization to develop a more productive work force. Assuming investors perceive that the gains in efficiency will exceed the costs of the program, the expected profitability and value of the organization should increase. Hence, we hypothesize that firm announcements of work-family human resource decisions will positively affect shareholder return.

We extend the human resource literature by introducing timing, a variable commonly considered in the strategic management literature. Strategy theorists consider the importance of timing in the process of capturing product markets (for example, Lieberman and Montgomery 1998). Specifically, the FMA framework has provided the theoretical underpinnings to numerous studies on early market entry and market share (for example, Brown and Lattin 1994). First-movers or "pioneers" have the potential to acquire superior resources and capabilities, and thus to gain competitive advantage (Lieberman and Montgomery 1998). Strategy theorists find timing moderates the relationship between managerial decisions and firm performance in product markets.

Timing should play a role in the human resource market as well. Similar to the product market, the human resource market requires strategy and innovation to secure talented employees (Lieberman and Montgomery 1998). A human resource "pioneer" is the first firm to gain widespread publicity for announcing a new human resource policy—the first firm, for example, to announce a day care or elder care program, or any innovative work-family initiative. As a first-mover or a pioneer, a firm can capitalize on its competitive advantage (Lieberman and Montgomery 1998). Introducing an innovative human resource program allows firms to increase their applicant pool (Carmichael 1984). If employee productivity is normally distributed, firms will attract more employees of various productivity levels. As long as selection processes are reliable, one would expect a firm with innovative human resource programs to acquire better-quality employees than firms without such programs, all else equal (Hannon and Milkovich 1996). As the relationship builds between the employee and the firm, switching costs may increase. The pioneering firms may also retain the high-quality employees. Addi-

tionally, the organizational attachment and satisfaction gained from a work-family policy may secure the retention of new employees and facilitate increases in firm efficiency.

For a firm to achieve a sustainable competitive advantage, it must develop a value-creating strategy that cannot be replicated by its current or future competitors (Barney 1991). Being a first-mover could be crucial in providing a strategic advantage in responding to an environmental opportunity (Barney 1991). Both an enhanced company reputation and increased applicant interest among top candidates may ensue. Given that only one company can be the first to initiate a specific kind of program, a first-mover reputation may be difficult or impossible to imitate (Becker and Gerhart 1996; Barney 1991). If a work-family program is time-dependent—that is, a resource that can be fully exploited only at a particular historical moment—other firms that attempt to duplicate it may meet with considerably less success (Barney 1991). Moreover, certain strategic advantages associated with being first to introduce a certain human resource program can help a company develop the "best" program of that kind, which we assume cannot be replicated. Although other organizations are able to implement a given work-family initiative, they may not generate responses comparable to those elicited by the first-mover. Hence, pioneering firms are in the best position to exploit the resource to secure a sustained competitive advantage. We suggest that across organizations, an announcement by a pioneer of a work-family human resource decision will have a larger impact on shareholder return than successive announcements of the same policy by other organizations.

Moreover, within an organization, the first announcement of a work-family human resource decision may have a larger impact on shareholder return than successive work-family decisions by the same firm. The first work-family announcement favorably affects the reputation of the organization. Similarly, the initial firm commitment to helping workers reconcile work and family responsibilities may increase a firm's ability to attract, retain, and increase the productivity of employees. However, the marginal gain in reputation, as well as in the attraction and retention of high-quality employees and gains in efficiency, may decrease with each succeeding work-family initiative. Each work-family initiative announced following the first may add value, but in decreasing increments. Since the positive reputation has already been accounted for in the stock price, the supplemental announcements may spur only minor additional investor response. Hence, we propose that the first commitment to work-family concerns a firm reveals will have a larger impact on share price than subsequent work-family initiatives by the same firm.

As good reputations guide applicants toward certain firms, bad reputations push them away and lead them to choose labor market competitors (Hannon and Milkovich 1996). Reputation affects applicants' attitudes concerning prospective employers (Belt and Paolillo 1982). A firm that has been involved in a gender discrimination suit will likely suffer ill repute, and thus be disadvantaged in the human resource market (Fombrun and Shanley 1990). Furthermore, just as work-family policies may increase employee satisfaction, it is logical that a discriminatory climate may decrease employee satisfaction. This, in turn, may result in greater employee absenteeism and turnover, and likely decreased or stagnant productivity.

A firm's involvement in a gender discrimination suit may influence how the same firm's subsequent announcement of a work-family initiative is received and interpreted by various stakeholders in the market. If the stakeholders are skeptical and interpret the initiative as an act of desperation by the firm, the potential benefits will be lost (Abowd, Milkovich, and Hannon 1990). The gain in reputation may be marginal, and the work-family policy may not sufficiently enhance employee satisfaction to allow the firm to increase retention and efficiency. Although the announcement should improve the firm's

reputation, it may not elevate it above the reputations of comparable firms that are free of negative gender-related press. As a result, we propose that announcements of work-family human resource decisions following negative gender-related human resource press attention will have a smaller impact on shareholder return than similar announcements that are not preceded by negative gender-related press.

Methods

The data were collected for firms listed on *Fortune* magazine's Fortune 500 list. Firms that appeared on the Fortune 500 list were examined for all years between 1971 and 1996; because of turnover in the list, the total number of firms that appeared in the Fortune 500 list at least once over the 26-year sample period was 1,153. The starting point of 1971 was chosen to include in the time frame one of the first widely heralded onsite childcare centers, which was established at Stride Rite Corporation and which, as noted above, was effectively the first important work-family initiative by a major company. We made 1996 the cut-off year due to a change in reporting in the *Wall Street Journal Index*—an annual providing summaries of articles published daily in the *Wall Street Journal,* and the resource from which we drew human resource policy and gender discrimination suit data. In 1996, the *Wall Street Journal Index* switched from reporting detailed synopses of articles to providing keyword descriptions of them. Therefore, the description of an article about a work-family human resource initiative would be more broadly classified as a Human Resource Policy article post–1996 than it was before. Accounting data and stock market performance measures were collected from the Center for Research in Security Prices (CRSP) at the University of Chicago, and Compustat provided the data for firm size.

The sample consists solely of Fortune 500 firms, a restriction that limits the generalizability of the results. Our results may be a large firm effect. Furthermore, several scholars have noted that all firms may not announce all events and the journal may choose not to report all events with equal frequency or timeliness (Thompson et al. 1987). However, most studies rely on the *Wall Street Journal* to identify events. Furthermore, since the sample essentially consists of the largest firms in the United States, any important human resource initiative among the sampled firms is likely to be reported.

All announcements pertaining to a work-family human resource decision were recorded and coded. Over the studied time period, 231 work-family policies were announced in the *Wall Street Journal.* To ensure reliability, two researchers independently categorized work-family announcements. The inter-rater agreement was 88.8%. Forced rater agreement was used to code the announcements that raters initially interpreted differently.

Event Study

An event study, a method typically applied in finance, was used for this analysis. The regularity on which event studies rely is the tendency for new information introduced to the market to trigger immediate reaction from investors. In this study, an event is a firm's announcement, as posted in the *Wall Street Journal,* of a work-family human resource decision. New information, implicit and explicit, carried by the firm's announcement allows investors to adjust their former outlook regarding the firm's potential (Patell 1976). To the extent that market participants expect the announced policy or the announcement itself to increase future cash flows of the firm or reduce the risk of the firm's stock, immediate action on the part of the investors will reflect the anticipated change. Therefore, the announcement of a work-family human resource decision may increase the appraisal of the firm's future.

Although event studies use many different techniques, they involve four general steps (see Brown and Warner 1985): identify the event; model the normal (expected) total shareholder returns; estimate the abnormal (unexpected) total shareholder

returns; and analyze summary measures for abnormal returns.

Initially, the event date of interest was identified and the normal or expected returns were modeled. The estimation was accomplished by statistically modeling the relation between a firm's shareholder return over a given time period (one year or 255 trading days) and the shareholder return for the same time period arising from a value-weighted diversified portfolio of common stocks. The one-year period was modeled with an end date of 30 days prior to the event date. A value-weighted diversified portfolio of stock using the American Stock Exchange (AMEX), the New York Stock Exchange (NYSE), and the Nasdaq Stock Market (NASDAQ) provided a benchmark. Estimating the relationship between each firm's stock returns and a diversified portfolio of stocks essentially controls for any external shocks or trends in the stock market. Equation (1) below was used to estimate the relationship between a given firm's return (R_{it}) and the market portfolio return (R_{mt}), where i represents the firm and t represents time in trading days.

$$R_{it} = \alpha_i + \beta_t R_{mt} + \eta_{it}. \quad (1)$$

Once the normal or expected shareholder return was estimated, equation (2) was used to compute the abnormal or excess returns (*ER*) resulting from a work-family announcement. Excess returns were calculated as the difference between the holding period shareholder return and its expected value, given the return on the market.

$$ER_{it} = R_{it} - (\hat{\alpha}_i - \hat{\beta}_t R_{mt}). \quad (2)$$

$\hat{\beta}$ represents the estimated relationship between the market return and the firm return from equation (1). We calculated excess returns for various "windows" or days surrounding the event date or work-family human resource decision. Based on the results of the preliminary trials (and for reasons that we explain below), we chose to use two windows exclusively in our analyses: one day (the day of the event) and three days (one day before the event, the event day itself, and one day following the event). In addition to excess returns for each firm, several other statistics were calculated. The average excess returns (*AER*) were reported. The average excess returns are the sum of the excess returns divided by the number of events (N). The average excess return for day t was calculated as

$$AER_t = \frac{\sum_{i=1}^{N} ER_{it}}{N} \quad . \quad (3)$$

Further, cumulative average excess returns (*CAER*) were computed. The cumulative average excess returns are the sum of the average excess returns over the days in the event window. The cumulative average excess returns for the relevant event group were computed over the days in the event window, where t_1 and t_2 represent the first and last day, respectively:

$$CAER_t = \sum_{t=t_1}^{t_2} AER_t. \quad (4)$$

While researchers have examined window lengths exceeding a 60-day time span, we present a maximum window length of three days and a minimum of one day. Scholars debate the appropriate length of an event study window. One key concern is that as the event window lengthens, the likelihood of the presence of confounding events increases (McWilliams and Siegel 1997). If this is the case, the true relationship between the event and shareholder return may be clouded by other information released regarding the firm. To address this concern, we present three sets of results. The first set (n = 231) includes all work-family human resource decisions with confounding announcements included. In the second set (n = 176), we eliminate any work-family announcement if another announcement by the same firm was issued on the same day. In the third set (n = 130), if another announcement by the same firm was released the day before, the day of, or the day after the human resource decision announcement, the work-family announcement is excluded. We view the last data set as providing for the cleanest examination

Table 2. Descriptive Statistics: Characteristics of Fortune 500 Firms That Announced Work-Family Initiatives between 1971 and 1996 and Those That Did Not. (Standard Deviations in Parentheses)

Variable	*Mean Firm Characteristics of the 1,044 across 231 Announcements* (n_1)	*Mean Characteristics of Firms Making No Announcements of Work-Family Initiatives*[a] (n_2)	*Difference Test of Work-Family Initiatives Means* (n_1, n_2)
Number of Employees (in thousands)	104.50 (138.50)	16.06 (23.57)	88.44 (8.81)
Firm Value (in millions, nominal dollars)	16,267 (20,533)	1,363 (2,652)	14,904 (1,249.29)
Firm Value (in millions, real dollars [base 1983])	127.53 (164.06)	12.07 (20.83)	115.46 (9.87)

[a]Between 1971 and 1996, a total of 231 announcements of work-family initiatives by Fortune 500 firms were posted in the *Wall Street Journal Index.* Although only 109 firms were responsible for the 231 announcements, to calculate this mean we treated the firm linked to each announcement as a separate firm. Hence, each of these averages is based on 231 statistics, not 109.

Sources: Work-family initiatives were identified using the *Wall Street Journal Index;* the number of employees was taken from Compustat; and firm value was obtained from Center for Research in Security Prices, University of Chicago.

of the work-family policy and shareholder return relationship.

A standard parametric significance test was performed. The test statistic is for the null hypothesis that the excess return or cumulative average excess return is equal to zero. Second, we present the results of t-tests to identify statistically significant differences for two samples of unequal variance.

Results

Because the sample is Fortune 500 firms, the firms included are necessarily large. Descriptive statistics of Fortune 500 firms with and without work-family programs are presented in Table 2.

The sample without work-family initiatives consists of 1,044 firms. In terms of employees and firm value, these firms are statistically significantly smaller than the firms that announced work-family initiatives. In the latter sample, which includes 109 firms, the average number of employees is 104,500 and the average firm value $16.2 billion. Additionally, due to their size, these firms are considered newsworthy, and more information is released about them, on average, than about the other firms. Of the 231 work-family program announcements issued by the 109 firms, 55 (24%) occurred on the same day as a confounding announcement (a disclosure of other information regarding the firm's plans or operations) by the same firm; and 101 (44%) occurred within the same three-day window as did at least one confounding announcement.

Short window lengths for the event study have been recommended by researchers in order to minimize other factors influencing the relationship being analyzed (McWilliams and Siegel 1997). Even within short windows, however, confounding events may occur. As noted, in this analysis we examine a three-day window (the day before, the day of, and the day after the event) and a one-day window (the day of the event). Examining the day before and the day after the event allows for inclusion of possible leaks of the information or lag-time in investors' reactions, respectively,

Table 3. Average Excess Returns of Work-Family Human Resource Decisions.

	All Work-Family HR Decisions with Confounding Events from t–1 to t+1 (n = 231)	*All Work-Family HR Decisions without Confounding Events on t=0 (n = 176)*	*All Work-Family HR Decisions without Confounding Events from t–1 to t+1 (n = 130)*
$AER_{t=0}$	0.16**	0.17*	0.32***
	(0.09)	(0.12)	(0.13)
$CAER_{t=-1,+1}$	0.11	0.02	0.32*
	(0.15)	(0.14)	(0.21)

Notes: All coefficients are expressed as percentages. *AER* = average excess returns; *CAER* = cumulative average excess returns.

The coefficients vary slightly from Arthur (2003). Whereas Arthur (2003) used a benchmark measure based on an equally weighted portfolio of stocks, the current paper employs a value-weighted portfolio of stocks.

*Statistically significant at the .10 level; **at the .05 level; ***at the .01 level.

while minimizing the potential for confounding events.

Our main research hypothesis predicts that announcements of work-family human resource decisions will positively affect shareholder return. As detailed in Table 3, the results indicate a statistically significant increase in shareholder return on the day of the event. Effect sizes range from .16% to .32%, depending on the inclusion of confounding events. With the full sample size of 231, shareholder return increases .16% (p = .038). When announcements that occur in conjunction with confounding events on the same day are eliminated (n = 176), shareholder return increases .17% (p = .078). The cleanest set of results, from an analysis that eliminates announcements occurring together with confounding events at any time in the three-day window (n = 130), exhibits a statistically significant share price increase of .32% (p = .007) on the day of the announcement.

For the analyses examining shareholder return over the full three-day window rather than just on the day of the announcement, neither sample with confounding events included yields statistically significant results. Only the sample without confounding events exhibits a share price increase (.32%) that is significant at the 10% level (p = .064). Hence, weaker indications of increased shareholder return are found over the three-day window than on the day of the announcement.

Due to the increased clarity of the results when firm announcements with confounding events are excluded, the following discussion will only address those announcements that are without confounding disclosures in the three-day window. For reasons stated above, we limit the discussion of share price reaction to the one-day window (the day of the event) and the three-day window (the day before, the day of, and the day after the event).

Table 4 presents the results of our analysis to determine whether there is a first-mover advantage. This analysis examines the policy-announcement impact on shareholder return for pioneering firms versus the shareholder return for successor firms announcing the same policy. As detailed, pioneering firms achieved a shareholder increase of .94% (p = .004) on the day of the announcement, compared to .19% (p = .082) for successor firms. Both coefficients are statistically significant. Furthermore, a standard t-test of two sample means with unequal variances shows a statistically significant difference in magnitude between the share price reactions. The three-day window results are statistically significant for pioneers only. The means test for the three-day window suggests that the coefficients are significantly different at the 10% level. The results provide support for the first-mover advantage hypothesis. They suggest that the first firm to announce a particular work-family decision garners

Table 4. Average Excess Returns of Pioneering and Follower Work-Family Human Resource Decisions across Firms.

	Pioneering Work-Family HR Decisions across Firms (n = 19)	*Follower Work-Family HR Decisions across Firms (n = 111)*	*Second-Order t-Tests of Differencing Coefficients*
$AER_{t=0}$	0.94***	0.19*	0.75**
	(0.36)	(0.14)	(0.36)
$CAER_{t=-1,+1}$	0.88*	0.22	0.66*
	(0.55)	(0.23)	(0.51)

Notes: All coefficients are expressed as percentages. The analyses include announcements without confounding events from $t-1$ to $t+1$. *AER* = average excess returns; *CAER* = cumulative average excess returns.
*Statistically significant at the .10 level; **at the .05 level; ***at the .01 level.

higher day-of-announcement shareholder gains than do successor firms introducing the same policy.

Another hypothesis is that a firm's first work-family announcement will reap a greater share price increase than will successive work-family announcements by the same firm. As detailed in Table 5, we define two categories of work-family program announcements: first announcements by firms that made multiple announcements, and successive announcements—that is, work-family announcements that followed an initial one in the same firm. To examine our hypothesis, we compare first work-family decisions in firms with multiple announcements (n = 24) and successive announcements by those same firms (n = 47); we omit from this analysis the 59 firms in which just one announcement (followed by no other announcements) was made.

First work-family decisions are associated with a statistically significant announcement-day shareholder gain of .75% (p = .009), whereas announcements of subsequent work-family decisions by the same firms are not linked with a statistically significant same-day shareholder increase. Furthermore, the values are statistically significantly different. The three-day window analysis exhibits a statistically significant shareholder value increase of .98% (p = .035) for first firm announcements. The corresponding increase associated with subsequent announcements of work-family programs in the same firms is not statistically significant. The effect sizes are not significantly different. Hence, we find mixed support for the hypothesis that first announcements by firms will affect share price more than subsequent announcements by the same firms.

The last question our analysis addresses is whether a negative gender-related press release influences the share price reaction to a subsequent work-family decision. When we split work-family announcements into two groups based on whether they were preceded by a negative gender-related press release (Table 6),[2] we find that positive and

[2]The 1971 start date for our sample period ensures that all EEOC civil suits against private employers, pursuant to Title VII (1972), are included. Some non-EEOC discrimination suits may have occurred prior to 1971, but Hersch (1991) suggested that the number is very small.

One firm had a discrimination suit within the year prior to its work-family announcement. Due to influences on the modeling period (255 trading days preceding the announcement), this event was eliminated. Among the 129 cases that remained, we made no differentiation based on the length of time that elapsed between a discrimination suit and a subsequent work-family announcement. Hence, for example, a work-family announcement in 1973 that followed a suit in 1971 was treated the same as a 1988 announcement following a 1974 suit. The mean

Table 5. Average Excess Returns of First and Successor Work-Family Human Resource Decisions within Firms.

	First Work-Family HR Decisions within Firms with Successors (n = 24)	*Successor Work-Family HR Decisions within Firms (n = 47)*	*Second-Order t-Tests of Differencing Coefficients*
$AER_{t=0}$	0.75***	0.04	0.71**
	(0.32)	(0.08)	(0.39)
$CAER_{t=-1,+1}$	0.98**	0.27	0.72
	(0.54)	(0.23)	(0.66)

Notes: All coefficients are expressed as percentages. The analyses include announcements without confounding events from $t-1$ to $t+1$. *AER* = average excess returns; *CAER* = cumulative average excess returns.
*Statistically significant at the .10 level; **at the .05 level; ***at the .01 level.

statistically significant share price reactions occurred on the day of the announcement for both groups. For announcements not preceded by a negative gender-related press release (n = 82), the gain was .36% (p = .024); for those preceded by a negative gender-related press release (n = 47), it was .26% (p = .075). While the raw effect sizes are statistically significant, the values are not statistically different from each another. Therefore, the hypothesis is not supported for the one-day window.

The shareholder return found in the three-day-window analysis is a non-significant .22% (p = .187) for those firms without negative gender-related press releases in the years prior to their work-family announcement. Firms with negative gender-related press releases in the past *did* exhibit a significant increase (.48%) in share price (p = .096). The hypothesis is not supported for the three-day window. Hence, the results presented in Table 6 do not support the final hypothesis.

Conclusion

Our analyses suggest that work-family human resource decisions positively affect firm value, as shown by share price reactions. Investors, apparently believing that work-family initiatives can benefit firms, respond positively to news of such initiatives, immediately imparting an increase to the stock price. We find statistically significant increases in share price on the day of the announcement. The positive share price reaction, however, is not resilient over a longer time period.

The results of our tests of three hypotheses concerning how timing may mediate shareholders' reaction to work-family program announcements are mixed. Positive share price reactions tended to be greater, we found, for a pioneering firm—the first firm to announce a particular work-family policy—than for successor firms announcing the same type of policy. Furthermore, within firms, the first work-family initiative reaped larger increases in share price than did the announcement of a later work-family initiative. The appearance of a negative gender-related press release does not seem to have affected shareholder reaction to a subsequent work-family program announcement.

The greater increase in share price achieved by pioneering firms than by later announcers of the same policy is consistent with FMA (first-mover advantage) theory. Numerous studies in strategic management literature have tested the FMA framework. For example, Chaney and Devinney (1992) reported a statistically significant average

length of time elapsing between a discrimination suit and the firm's subsequent announcement of a work-family initiative was slightly over 10 years.

Multiple suits preceding a work-family announcement were treated the same as a single suit.

Table 6. Average Excess Returns of Work-Family Human Resource Decisions Following the Absence or Presence of Negative Gender-Related Press in the Past.

	Work-Family HR Decisions with No Negative Gender-Related Press in Past (n = 82)	*Work-Family HR Decisions Following Negative Gender-Related Press in Past (n = 47)*	*Second-Order t-Tests of Differencing Coefficients*
$AER_{t=0}$	0.36**	0.26*	0.09
	(0.18)	(0.18)	(0.27)
$CAER_{t=-1,+1}$	0.22	0.48*	–0.25
	(0.25)	(0.37)	(0.27)

Notes: All coefficients are expressed as percentages. The analyses include announcements without confounding events from $t-1$ to $t+1$. *AER* = average excess returns; *CAER* = cumulative average excess returns.
*Statistically significant at the .10 level; **at the .05 level; ***at the .01 level.

daily return of .26% on the day of a new product announcement. In our study, first-movers gained 75% more than later announcers of the same policy. This differential represents, on average, an advantage of approximately $122 million for pioneering firms over successor firms on the day of the announcement.

The finding that the first work-family initiative announced by a firm increased the stock price more than a second initiative by the same firm may reflect a decreasing marginal return to such announcements. The primary gain in share price resulting from the announcement of a work-family initiative may be attributable to enhanced firm reputation.

Our third and last timing hypothesis concerned the possible mediating role of prior gender discrimination suits. Our expectation that negative gender-related press would appreciably depress positive shareholder reaction to a later work-family initiative was not borne out by our empirical analysis. Over a three-day window, the increased shareholder return associated with a work-family program announcement was actually greater for firms with negative gender-related press in the previous years than for those without it.

Our study shows that human resource decisions can have substantial effects on firms' shareholder value, but perhaps of greater interest, because more novel, are our findings on how timing can mediate the size of those effects. We suggest that, with respect to timing, analyses of the human resource market can draw on product market analyses as a model. Just as timing affects firms' ability to exploit product introduction, it may influence their ability to capitalize on human resource initiatives. In both cases, timing may be critical to the creation of a sustained competitive advantage.

REFERENCES

Abowd, John M., George T. Milkovich, and John M. Hannon. 1990. "The Effects of Human Resource Management Decisions on Shareholder Value." *Industrial and Labor Relations Review*, Vol. 43, No. 3 (Special Issue), pp. 203S–236S.

Arthur, Michelle. 2003. "Share Price Reactions to Work-Family Human Resource Decisions: An Institutional Perspective." *Academy of Management Journal*, Vol. 46, pp. 497–505.

Barney, Jay B. 1991. "Firm Resources and Sustained Competitive Advantage." *Journal of Management,* Vol. 17, No. 1 (March), pp. 99–120.

Becker, Brian E., and Barry Gerhart. 1996. "The Impact of Human Resource Management on Organizational Performance: Progress and Prospects." *Academy of Management Journal,* Vol. 39, No. 4 (August), pp. 779–801.

Beer, Omar. 1997. "Footing the Bill: One Small Step for Reform, One Giant Gift for the Democrats." MotherJones.com.

Belt, James A., and John G. P. Paolillo. 1982. "The Influence of Corporate Image and Specificity of Candidate Qualifications on Response to Recruitment Advertisement." *Journal of Management,* Vol. 8, No. 1 (March), pp. 105–12.

Boudreau, John. 1988. "Utility Analysis." In Lee Dyer and Gerald Holder, eds., *Human Resource Management: Evolving Roles and Responsibilities.* Washington, D.C.: Bureau of National Affairs.

Brown, Christina L., and James M. Lattin. 1994. "Investigating the Relationship between Time in Market and Pioneering Advantage." *Management Science,* Vol. 40, No. 10 (October), pp. 1361–69.

Brown, Stephen J., and Jerold B. Warner. 1985. "Using Daily Stock Returns: The Case of Event Studies." *Journal of Financial Economics,* Vol. 14 (March), pp. 3-31.

Carmichael, H. Lorne. 1984. "Reputations in the Labor Market." *American Economic Review,* Vol. 74, No. 4 (September), pp. 713–24.

Chaney, Paul K., and Timothy M. Devinney. 1992. "New Product Innovations and Stock Price Performance." *Journal of Business Finance and Accounting,* Vol. 19, No. 5, pp. 677–95.

Cowan, Arnold R. 1992. "Nonparametric Event Study Tests." *Review of Quantitative Finance and Accounting,* Vol. 2 (December), pp. 343–58.

Datta, Sudip, and Mai E. Iskandar-Datta. 1996. "A Financial Analysis of Corporate Downsizing: Evidence from Employee Layoffs." Mimeo, Bentley College.

DiNardo, John, and Kevin F. Hallock. 2002. "When Unions 'Mattered': The Impact of Strikes on Financial Markets, 1925–1937." *Industrial and Labor Relations Review,* Vol. 55, No. 2 (January), pp. 219–33.

Farber, Henry S., and Kevin F. Hallock. 1999. "Have Employment Reductions Become Good News for Shareholders? The Effect of Job Loss Announcements on Stock Prices, 1970–1997." Working Paper 7295, National Bureau of Economic Research.

Filbeck, Greg. 2001. "*Mother Jones:* Do Better Places to Work Imply Better Places to Invest?" *Journal of Financial Economics,* Vol. 10 (Spring), pp. 57–70.

Fombrun, Charles J. 1996. *Reputation: Realizing Value from the Corporate Image.* Boston: Harvard Business School Press.

Fombrun, Charles J., and Mark Shanley. 1990. "What's in a Name? Reputation Building and Corporate Strategy." *Academy of Management Journal,* Vol. 33, No. 2 (June), pp. 233–58.

Friedman, Dana E. 1990. "Work and Family: The New Strategic Plan." *Human Resource Planning,* Vol. 13, No. 2, pp. 79-88.

Gannon, Martin J., Douglas L. Norland, and Franklin E. Robeson. 1983. "Shift Work Has Complex Effects on Lifestyles and Work Habits." *Personnel Administration,* Vol. 28, No. 5, pp. 93–97.

Goff, Stephen J., Michael K. Mount, and Rosemary L. Jamison. 1990. "Employer-Supported Childcare, Work/Family Conflict, and Absenteeism: A Field Study." *Personnel Psychology,* Vol. 43, pp. 793–809.

Grover, Steven, and Karen J. Crooker. 1995. "Who Appreciates Family Responsive Human Resource Policies? The Impact of Family Friendly Policies on the Organizational Attachment of Parents and Non-Parents." *Personnel Psychology,* Vol. 48, No. 2 (Summer), pp. 271–88.

Hallock, Kevin F. 1998. "Layoffs, Top Executive Pay, and Firm Performance." *American Economic Review,* Vol. 88, No. 4 (September), pp. 711–23.

Hannon, John M., and George T. Milkovich. 1996. "The Effect of Human Resource Reputation Signals on Share Prices: An Event Study." *Human Resource Management,* Vol. 35, No. 3 (September), pp. 405–24.

Hersch, Joni. 1991. "Equal Employment Opportunity Law and Firm Profitability." *Journal of Human Resources,* Vol. 26, No. 1 (Winter), pp. 139–53.

Kardes, Frank R., and Gurumurthy Kalyanaram. 1992. "Order-of-Entry Effects on Consumer Memory and Judgment: An Information Integration Perspective." *Journal of Marketing Research,* Vol. 29, No. 3, pp. 343–57.

Kossek, Ellen E., and Victor Nichol. 1992. "The Effects of on-Site Childcare on Employee Attitudes and Performance." *Personnel Psychology,* Vol. 45, pp. 485–509.

Lauterbach, Beni, and Joseph D. Vu. 1992. "Evidence on the Overreaction Hypothesis: The Case of Management Awards." *Quarterly Journal of Business and Economics,* Vol. 31 (Winter), pp. 45–70.

Lieberman, Marvin B., and David B. Montgomery. 1998. "First Mover (Dis)advantages: Retrospective and Link with the Resource-Based View." *Strategic Management Journal,* Vol. 19, pp. 1111–25.

McIntyre, Lee. 2000. "Childcare on Board: The Growth of Work-site Daycare." *Regional Review,* Vol. 10, No. 3, pp. 5–16.

McWilliams, Abagail, and Donald Siegel. 1997. "Event Studies in Management Research: Theoretical and Empirical Issues." *Academy of Management Journal,* Vol. 40, No. 3, pp. 626–57.

Patell, James M. 1976. "Corporate Forecasts of Earnings per Share and Stock Price Behavior: Empirical Tests." *Journal of Accounting Research,* Vol. 14, pp. 246–76.

Perry-Smith, Jill E., and Terry C. Blum. 2000. "Work-Family Human Resource Bundles and Perceived Organizational Performance." *Academy of Management Journal,* Vol. 43, No. 6 (December), pp. 1107–17.

Rothausen, Teresa J., Jorge A. Gonzalez, Nicole E. Clarke, and Lisa L O'Dell. 1998. "Family Friendly Backlash—Fact or Fiction? The Case of Organizations' On-Site Childcare Centers." *Personnel Psychology,* Vol. 51 (Autumn), pp. 685–706.

Stigler, George J. 1962. "Information in the Labor Market." *Journal of Political Economy,* Vol. 70, No. 1 (February), pp. S94–S105.

Szymanski, David M., Lisa C. Troy, and Sundar G. Bharadwaj. "Order of Entry and Business Performance: An Empirical Synthesis and Reexamination." *Journal of Marketing,* Vol. 59, No. 4, pp. 17–33.

Thompson, Cynthia A., Laura L. Beauvais, and Helen K. Carter. 1997. "Work-Family Programs: Only Slow-Trackers Need Apply? An Investigation of the Impact of Work-Family Culture." Paper presented at the Academy of Management Annual Meeting in Boston, Massachusetts, August.

Thompson II, Robert B., Chris Olsen, and J. Richard Dietrich. 1987. "Attributes of News about Firms: An Analysis of Firm-Specific News Reported in the *Wall Street Journal Index.*" *Journal of Accounting Research,* Vol. 25, No. 2, pp. 245–74.

Wall Street Journal Index. 1971–96. New York: Dow Jones & Co.

Wright, Peter, Stephen P. Ferris, Janine S. Hiller, and Mark Kroll. 1995. "Competitiveness through Management of Diversity: Effects on Stock Price Valuation." *Academy of Management Journal,* Vol. 38, No. 1 (March), pp. 272–87.